Colorado Climate
What Road Are We On?

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Colorado Climate Center

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http://ccc.atmos.colostate.edu

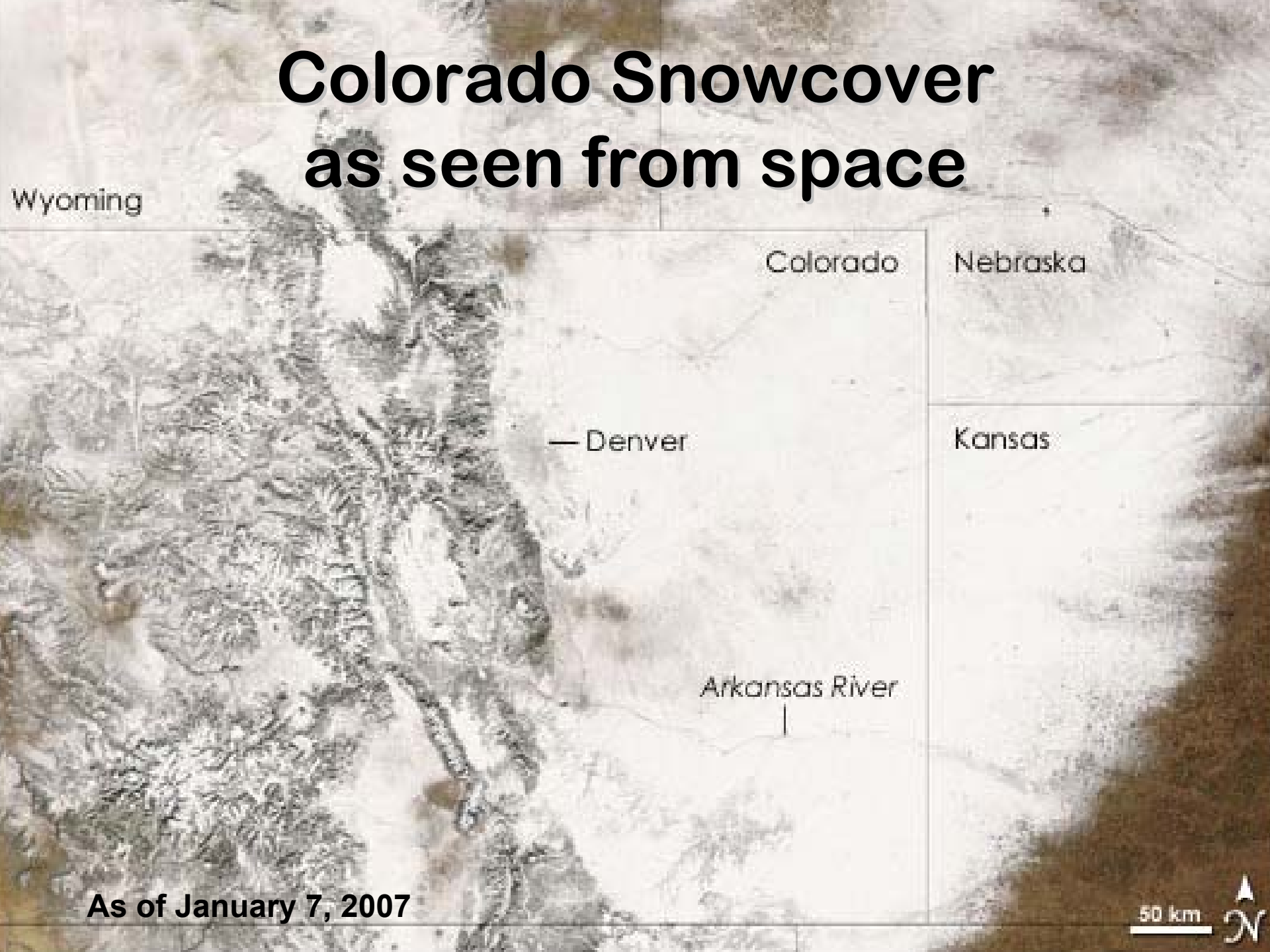
Prepared by Odie Bliss

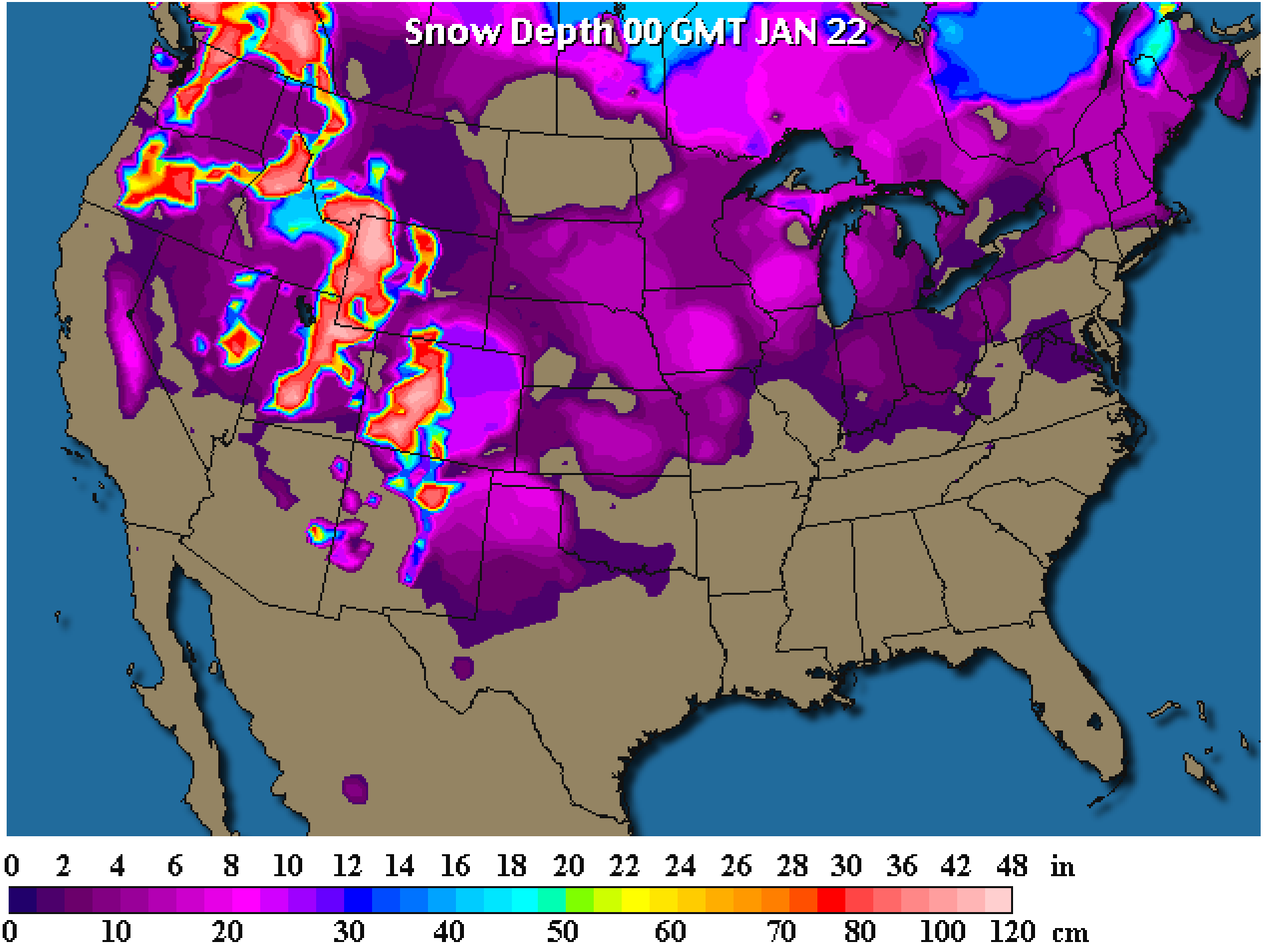
Colorado Climate Center

Colorado State University
Knowledge to Go Places

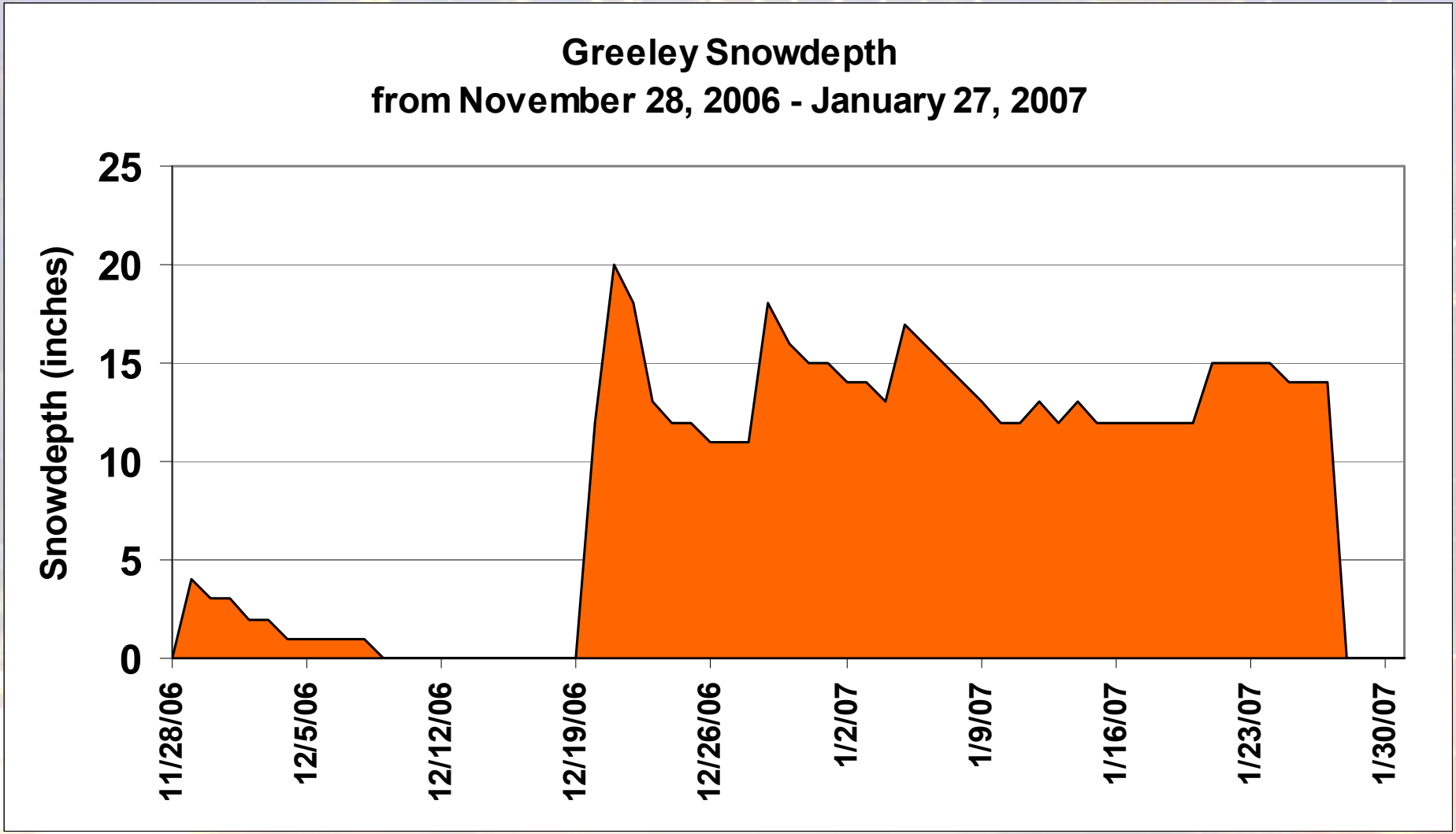

Interesting weather
we've been having lately

Colorado Snowcover as seen from space



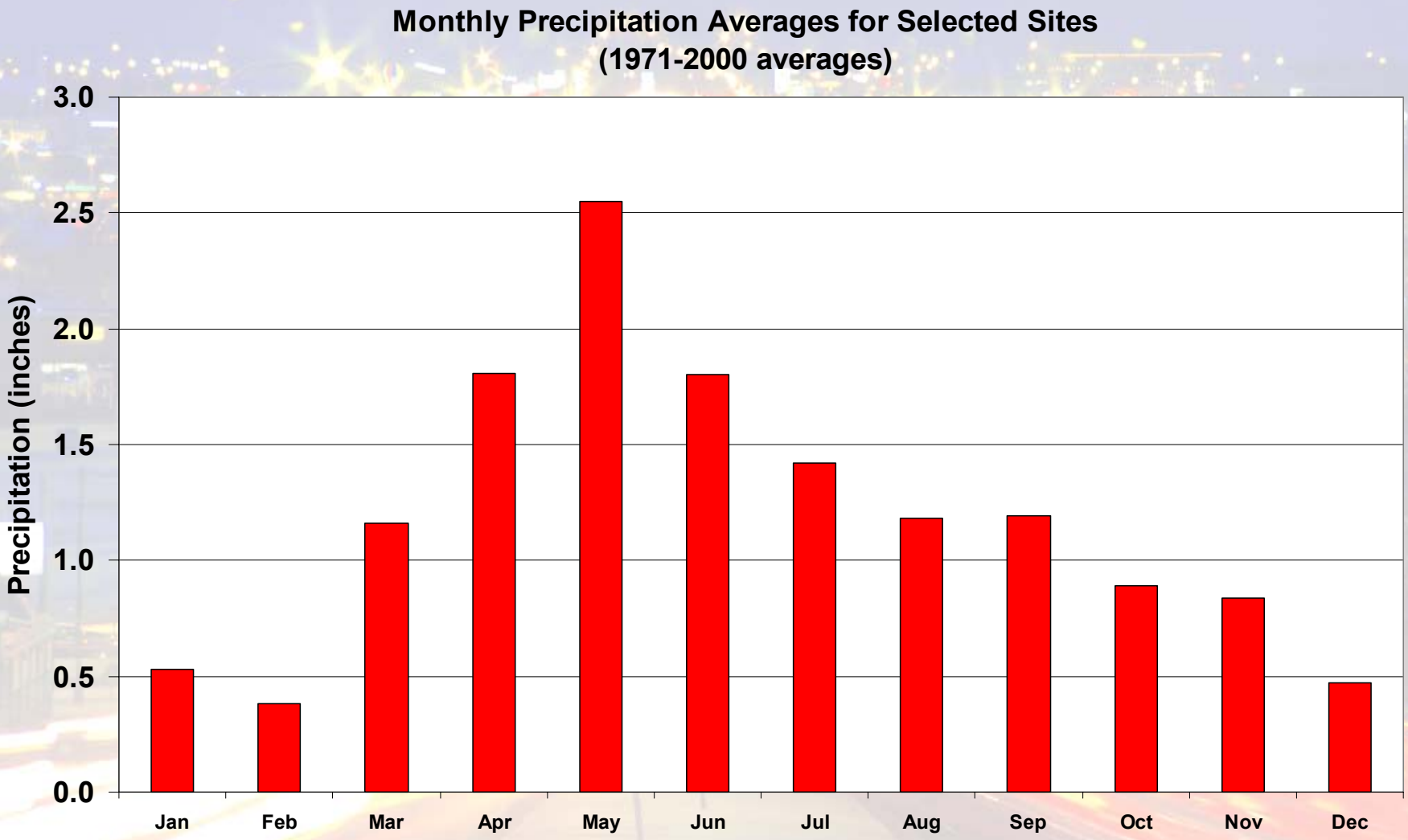

Snow Depth 00 GMT JAN 22
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 36 42 48 in
0 10 20 30 40 50 60 70 80 100 120 cm

Greeley Daily Total Snowdepth

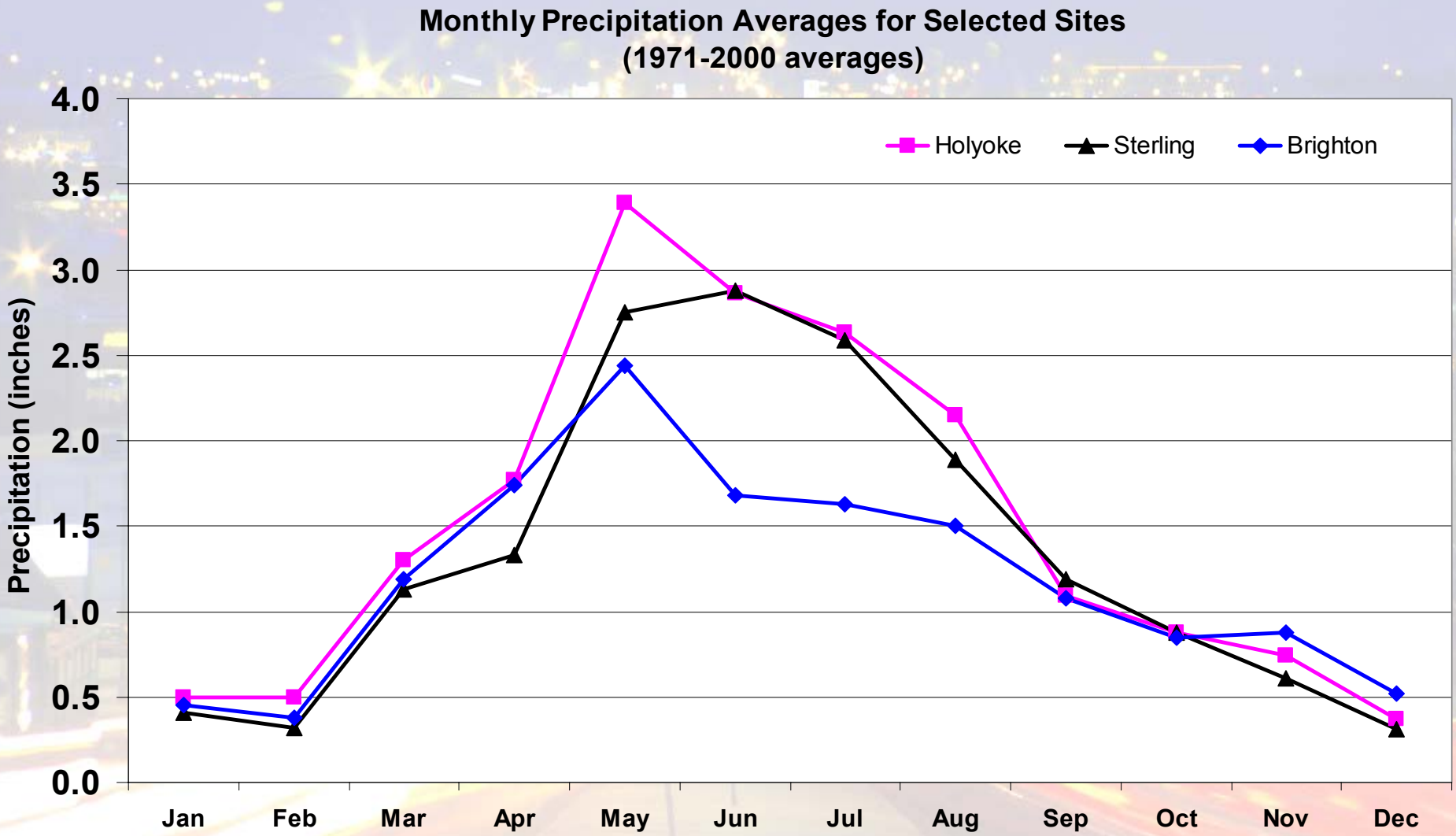


What is our Climate supposed to be like?

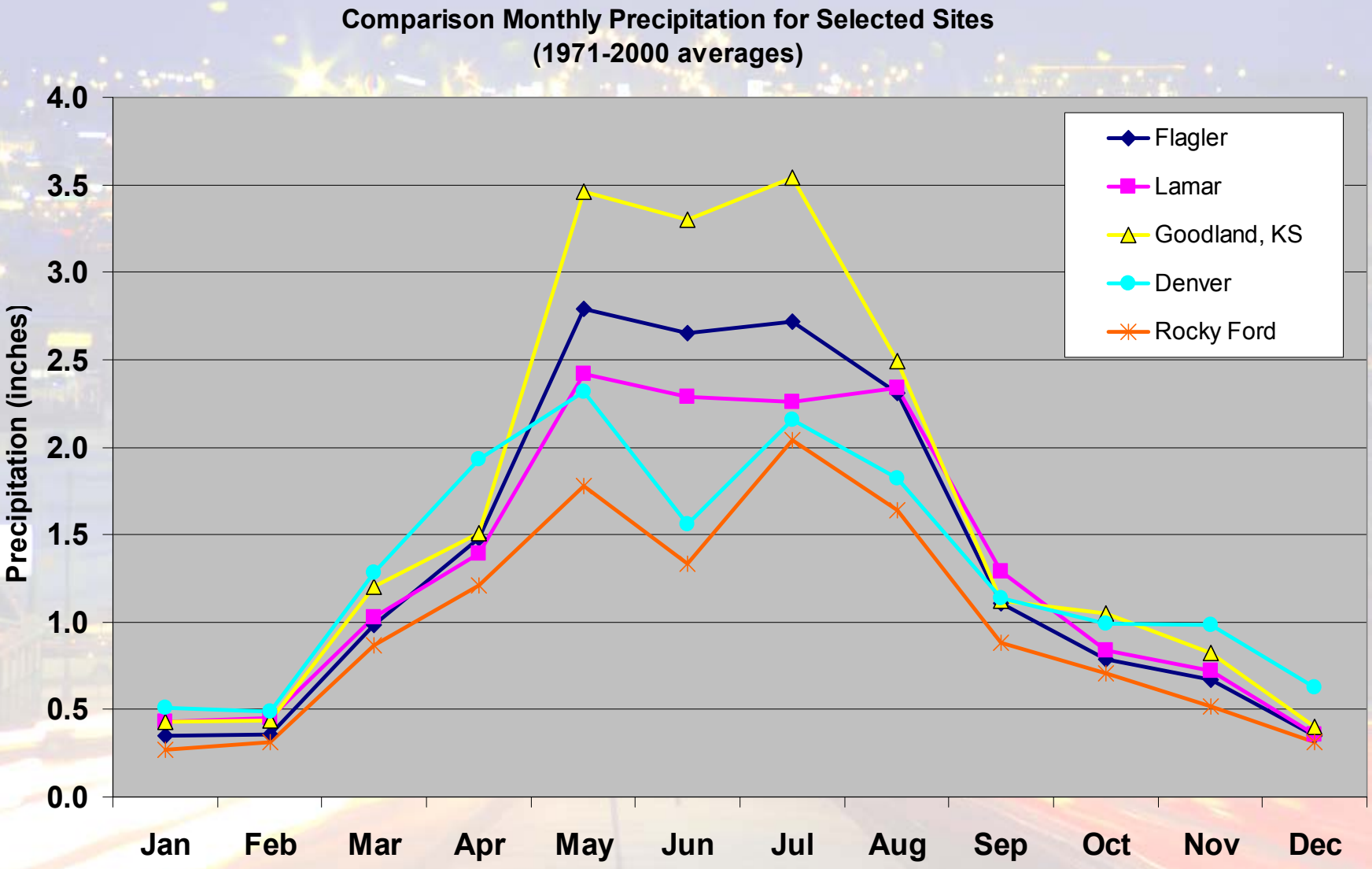
Monthly Average 30-year Precipitation for Greeley, CO



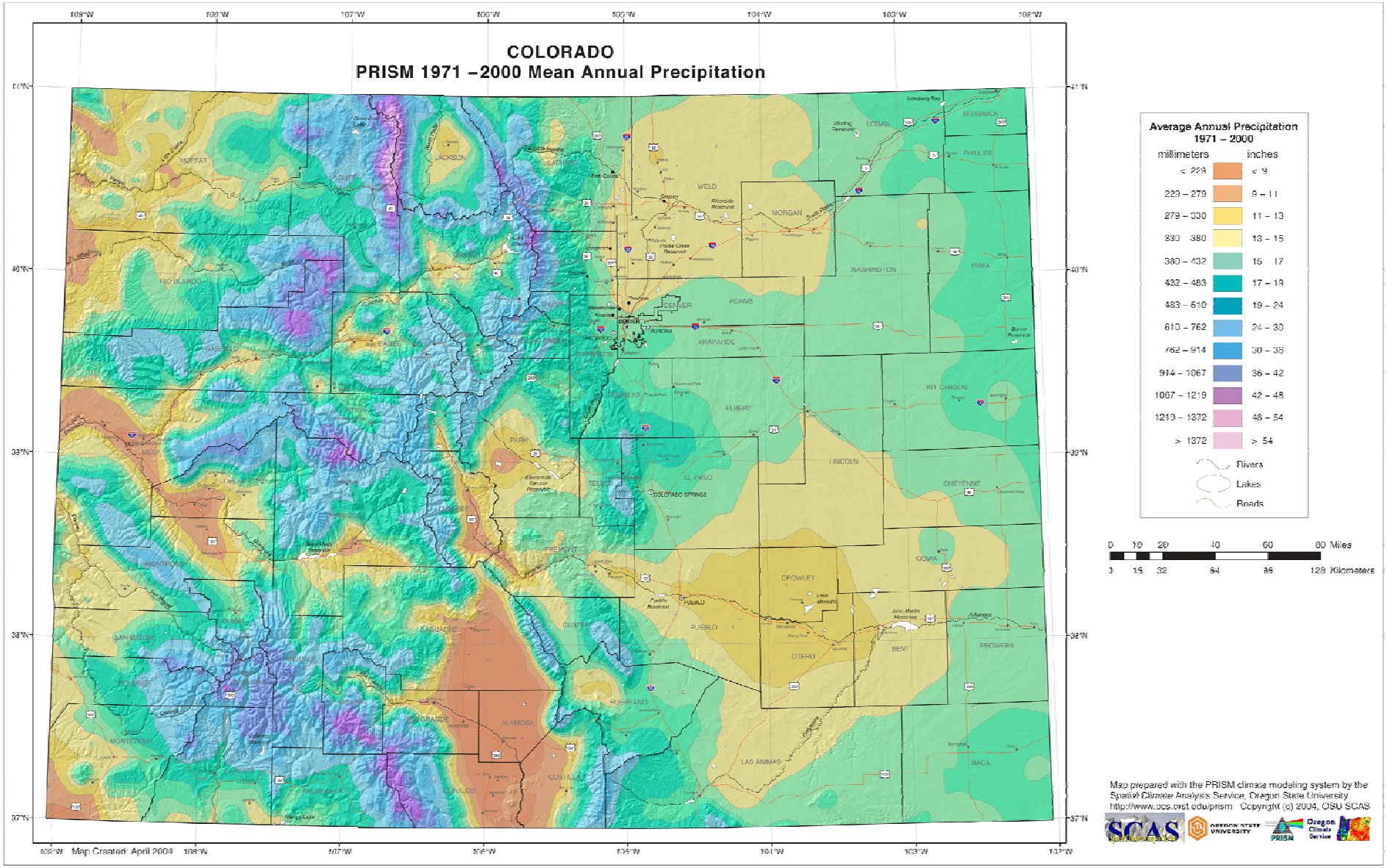
Monthly Average 30-year Precipitation for Brighton, Sterling and Holyoke, CO



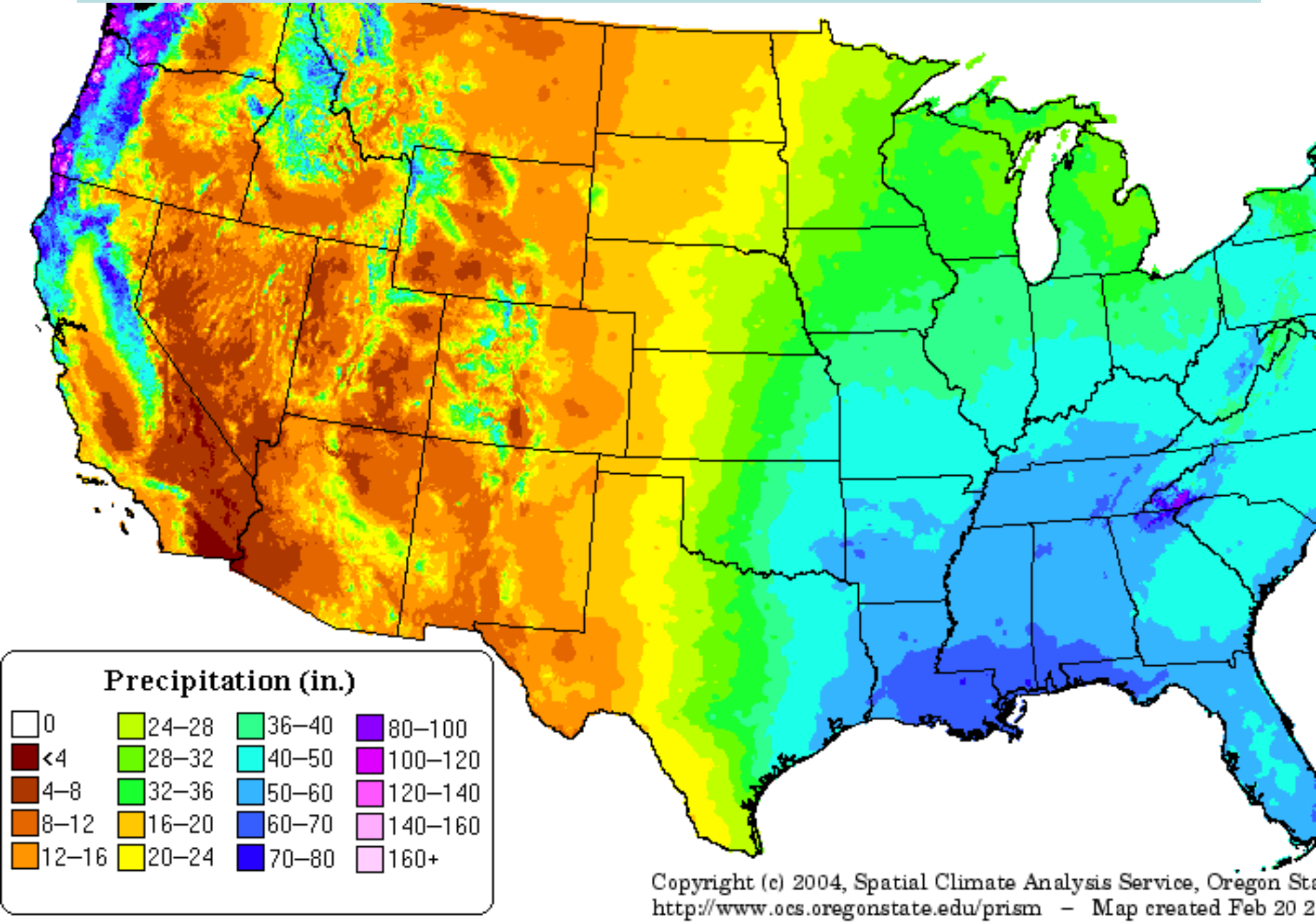
Precipitation Averages for Selected Sites



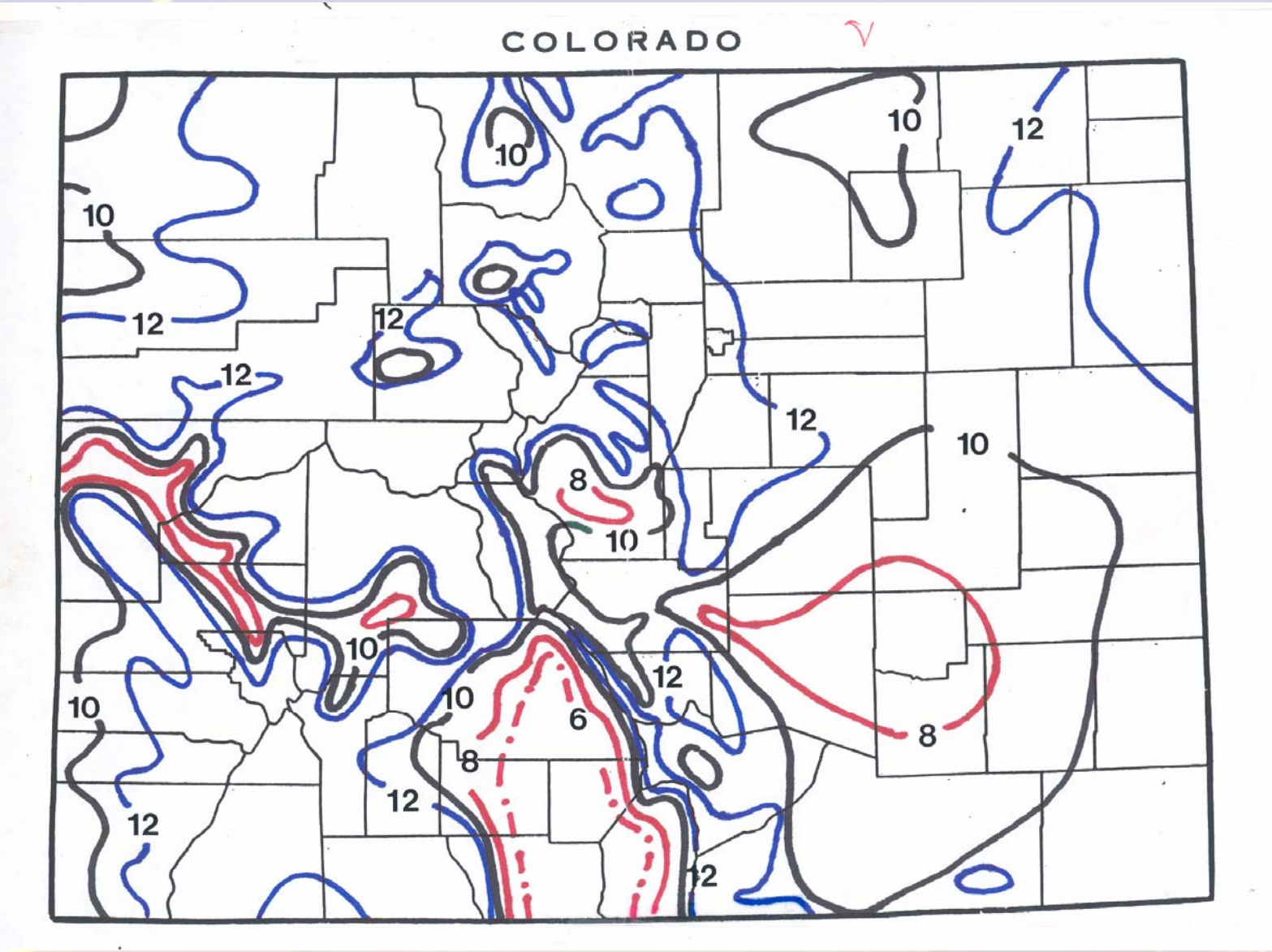
Colorado Average Annual Precipitation



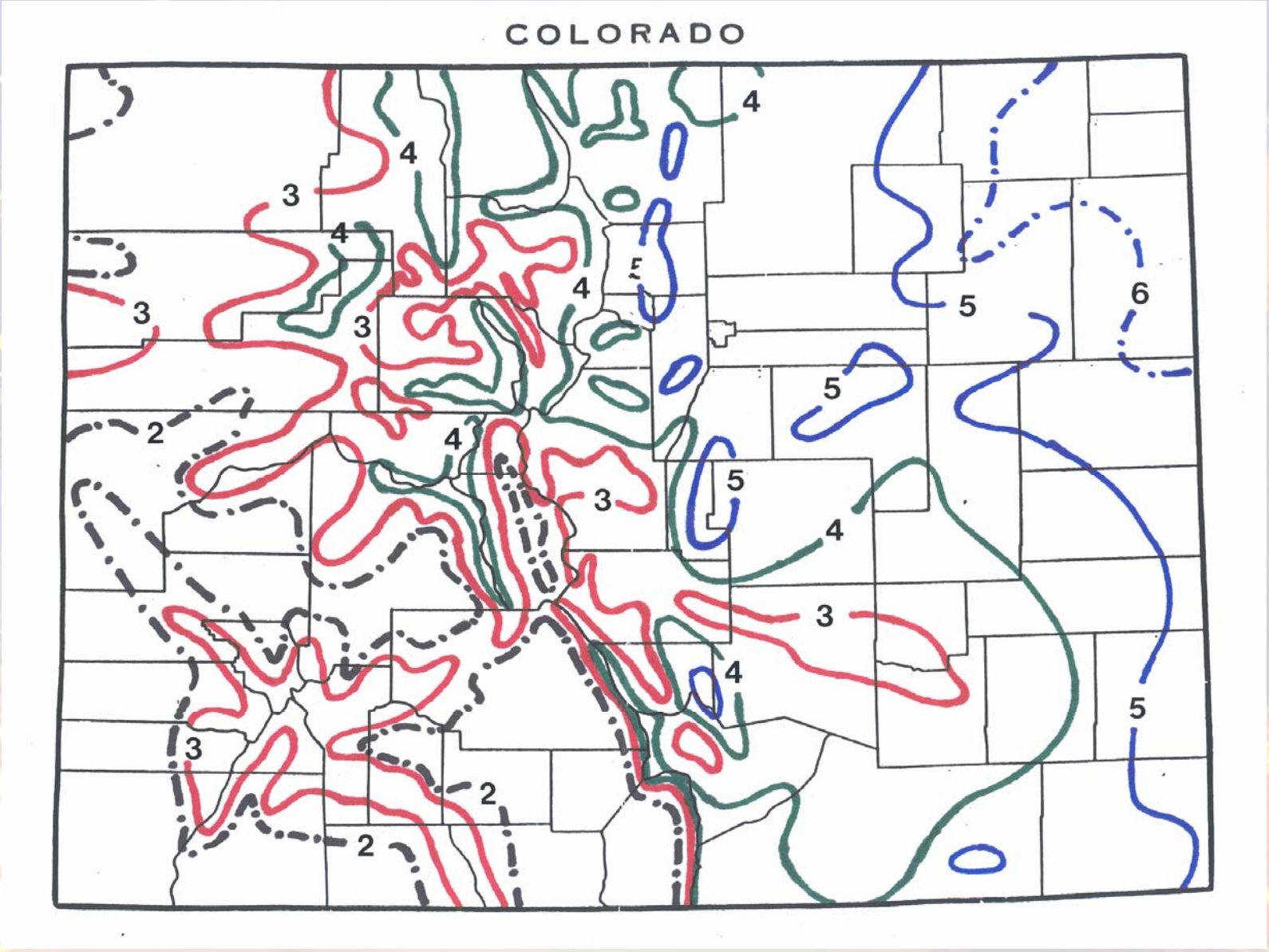
Precipitation: Annual Climatology (1971-2000)



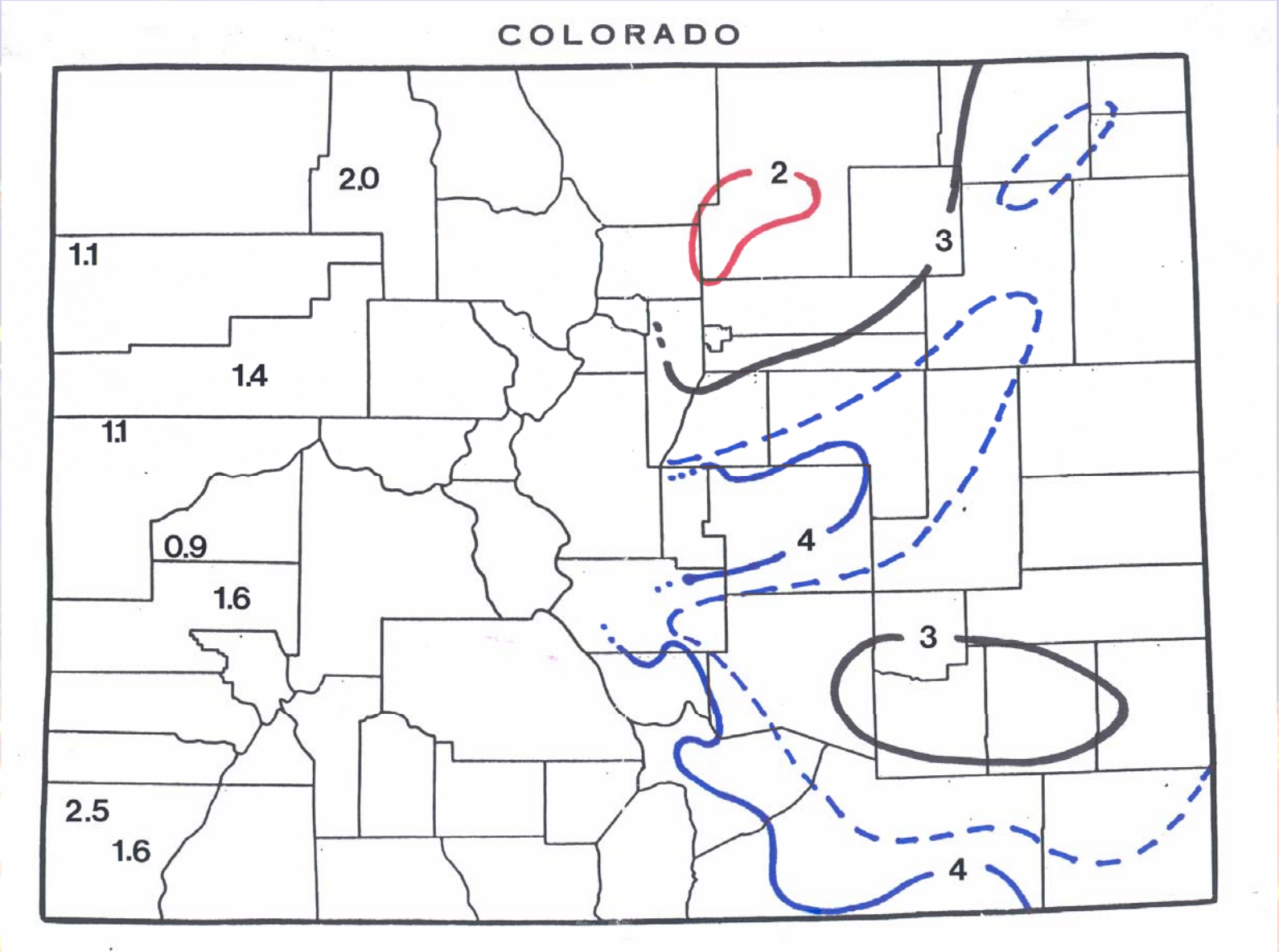
Average Wheat-Season Precipitation
September – June (Inches)
(Based on 1961-90 observed data)

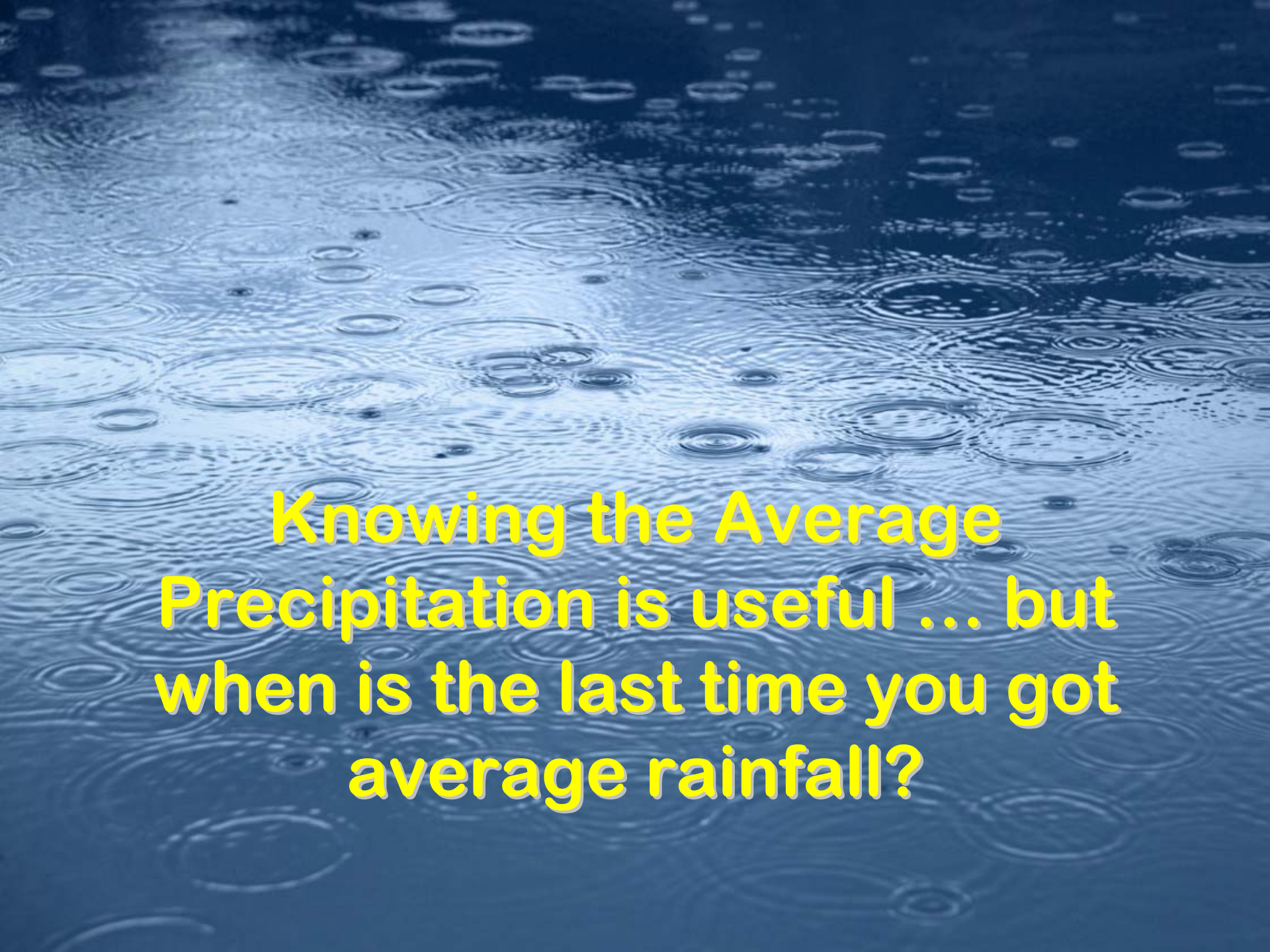


Average May-June Precipitation (Inches) (Based on 1961-90 observed data)

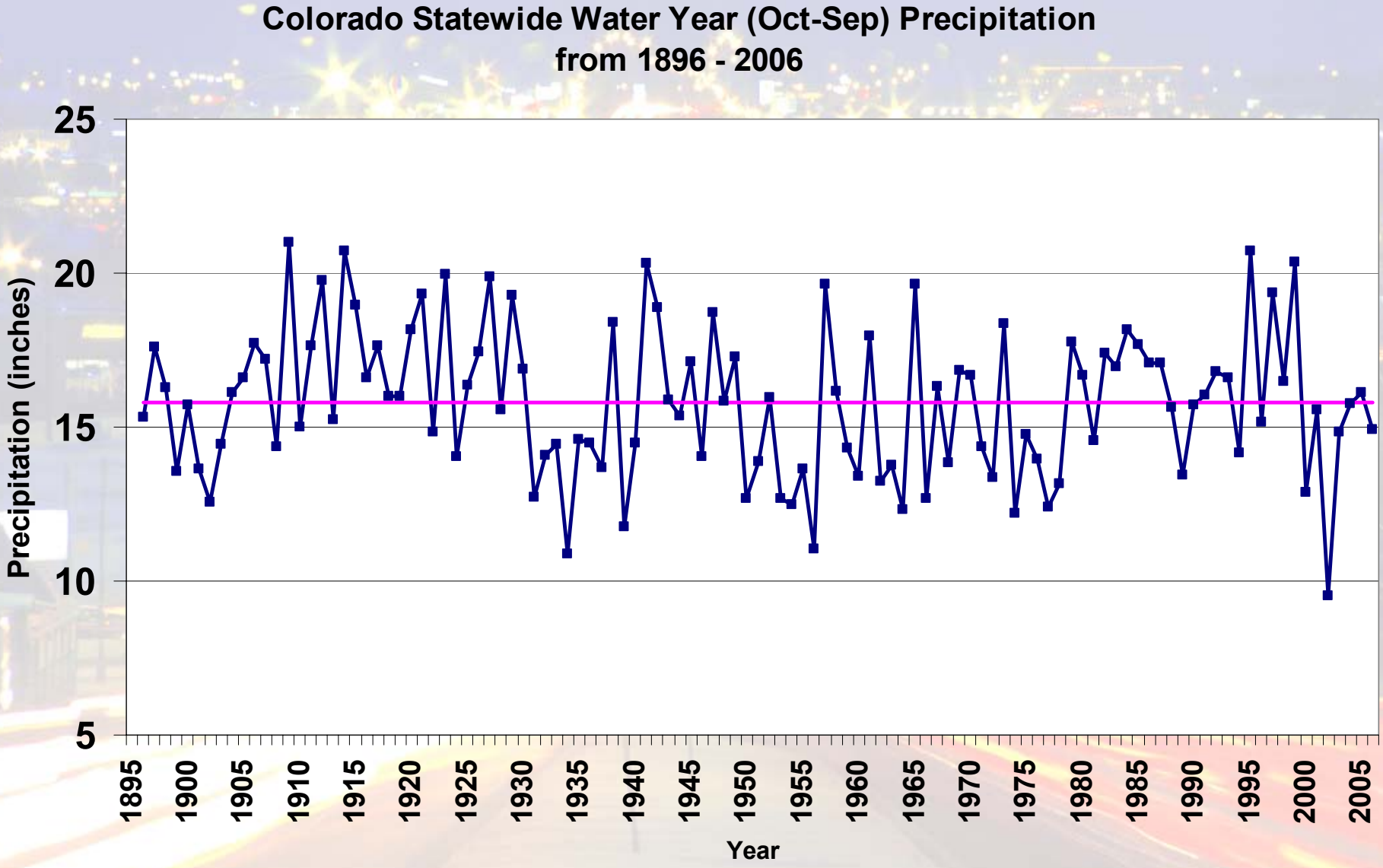


Average Precipitation (Inches)
For the Period 15 July – 25 August
(Based on 1961-1990 observed data)

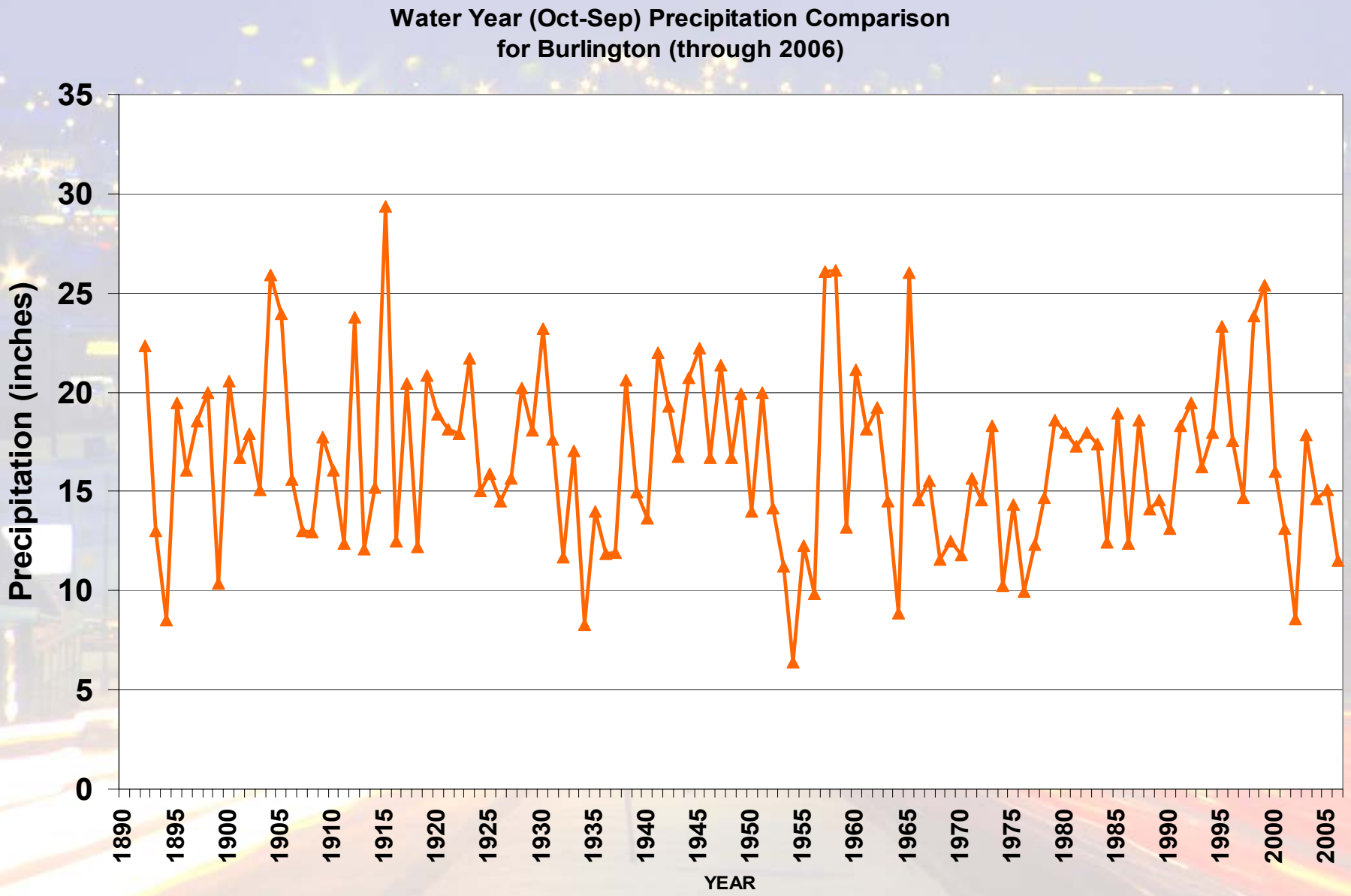



Knowing the Average Precipitation is useful … but when is the last time you got average rainfall?

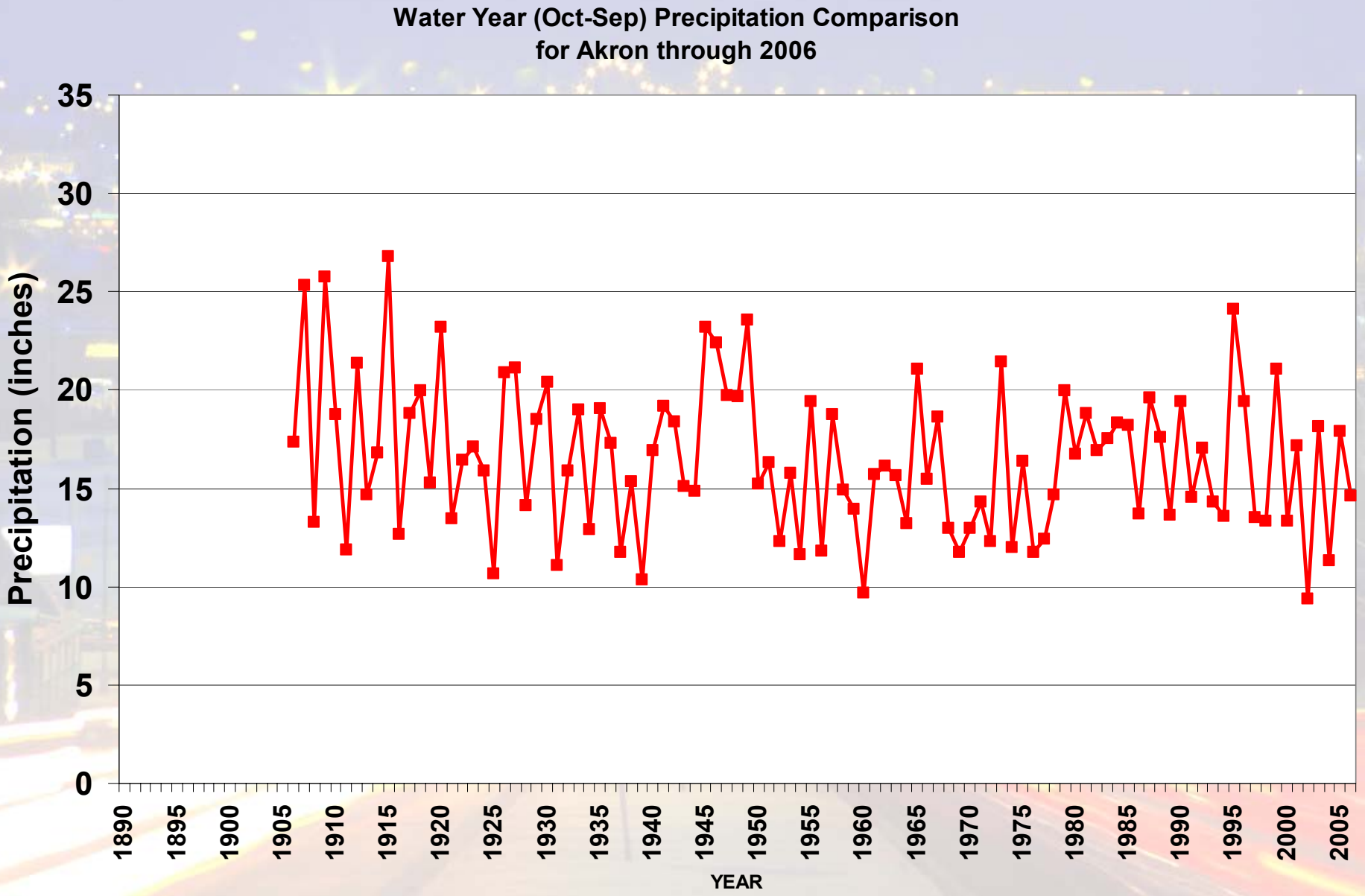
Have We Been Average? NO!



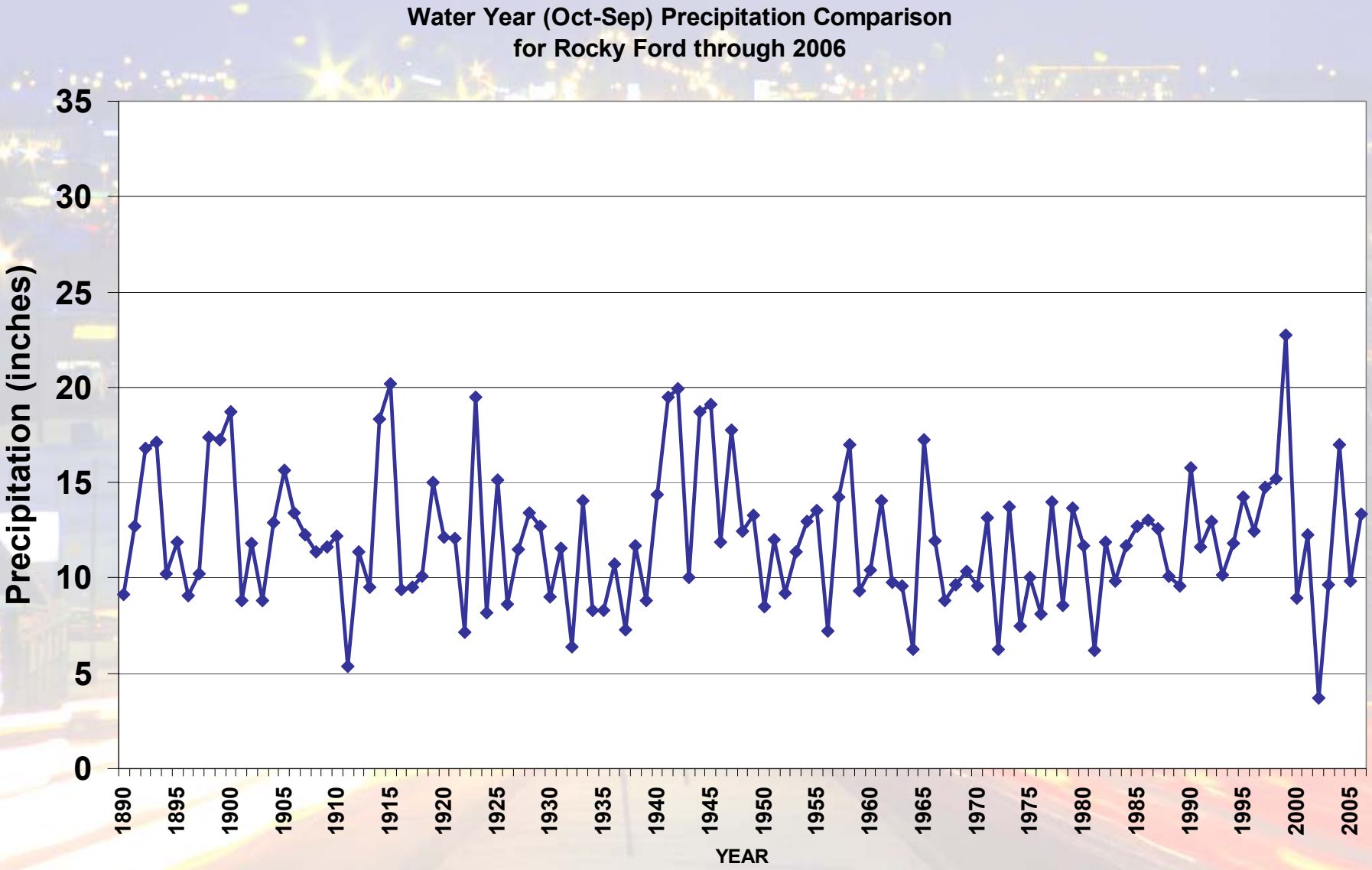
Burlington Water Year Precipitation



Akron Water Year Precipitation



Rocky Ford Water Year Precipitation

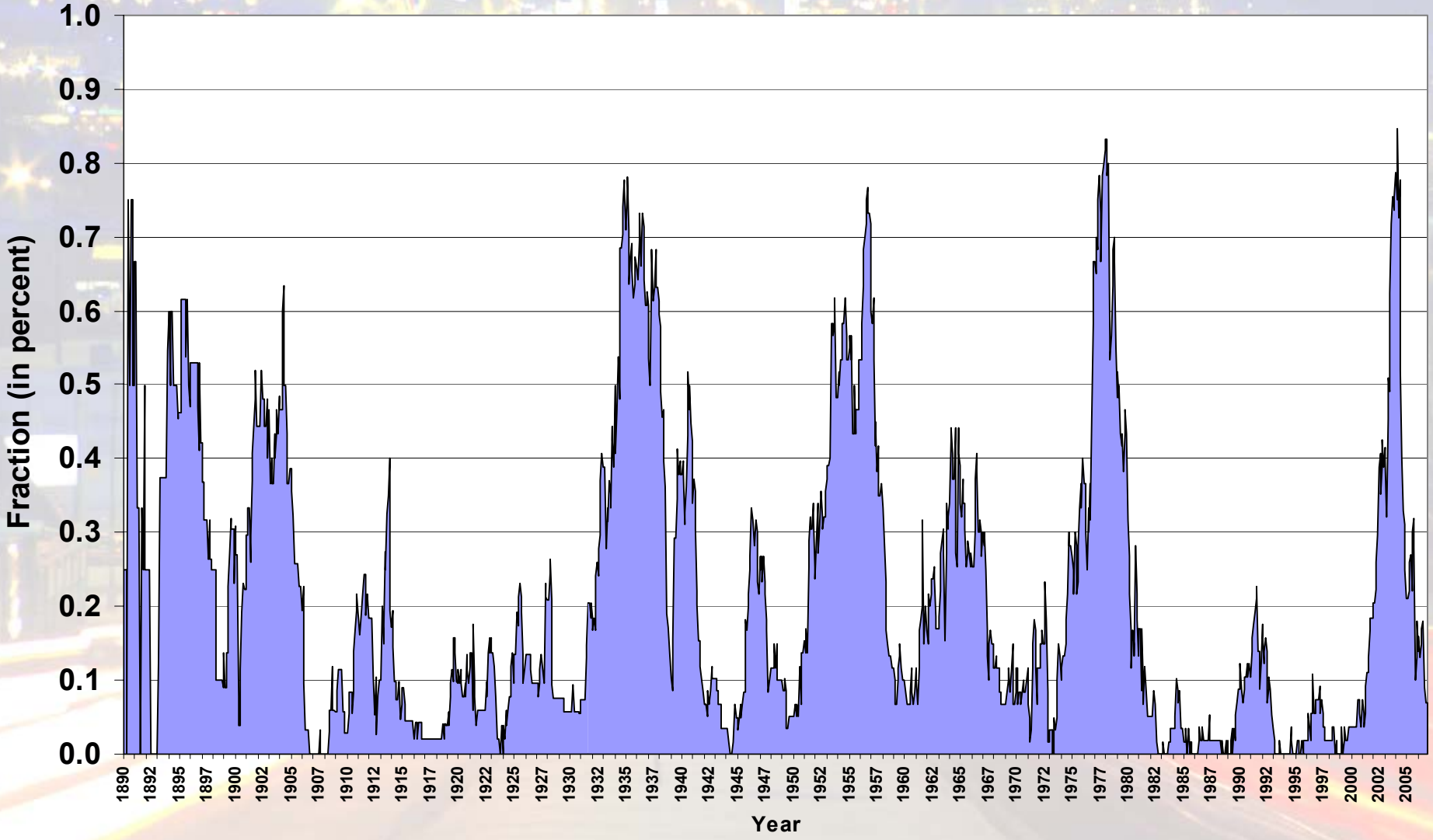


48-Month SPI

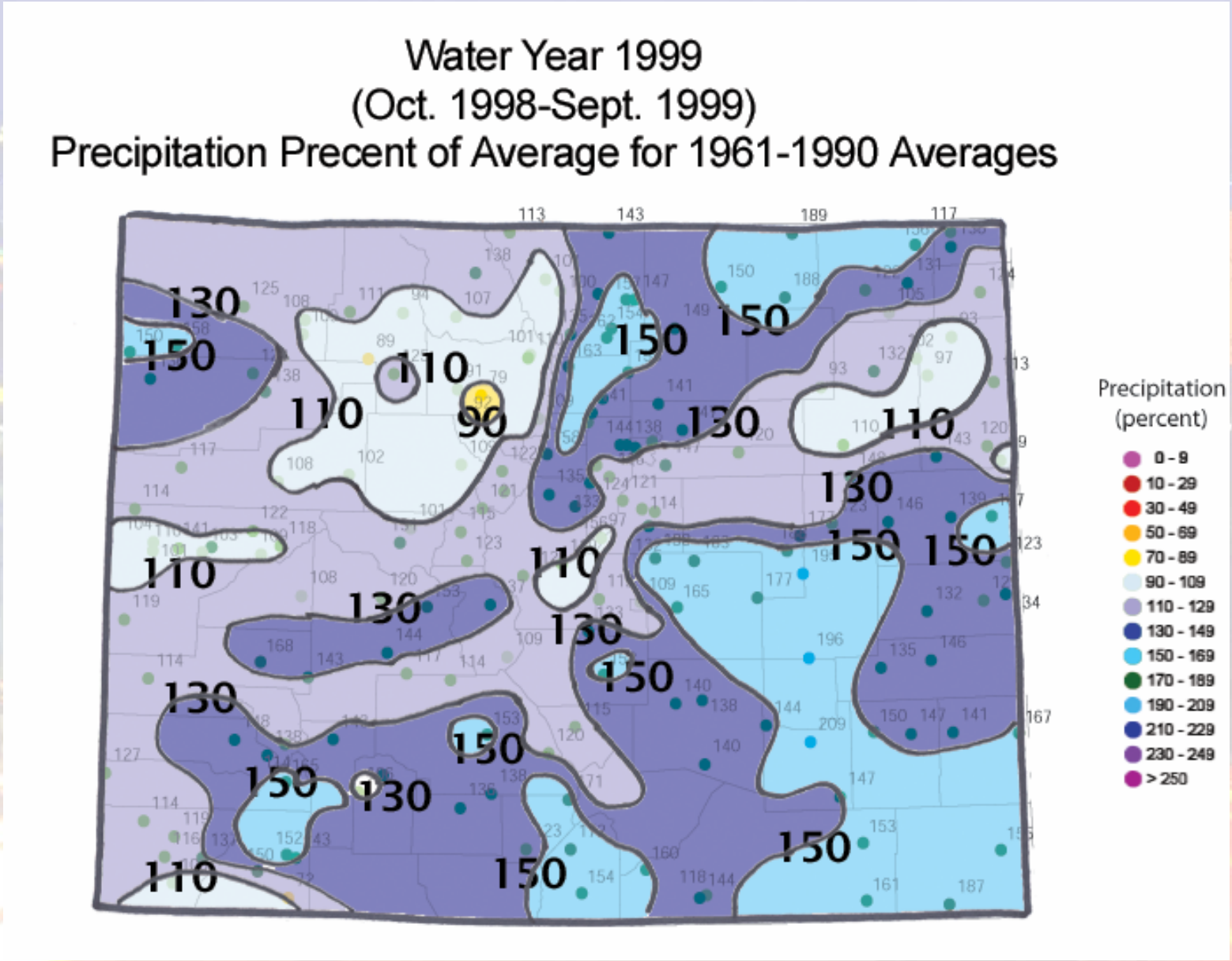
Fraction of Colorado in Drought

Based on 48 month SPI

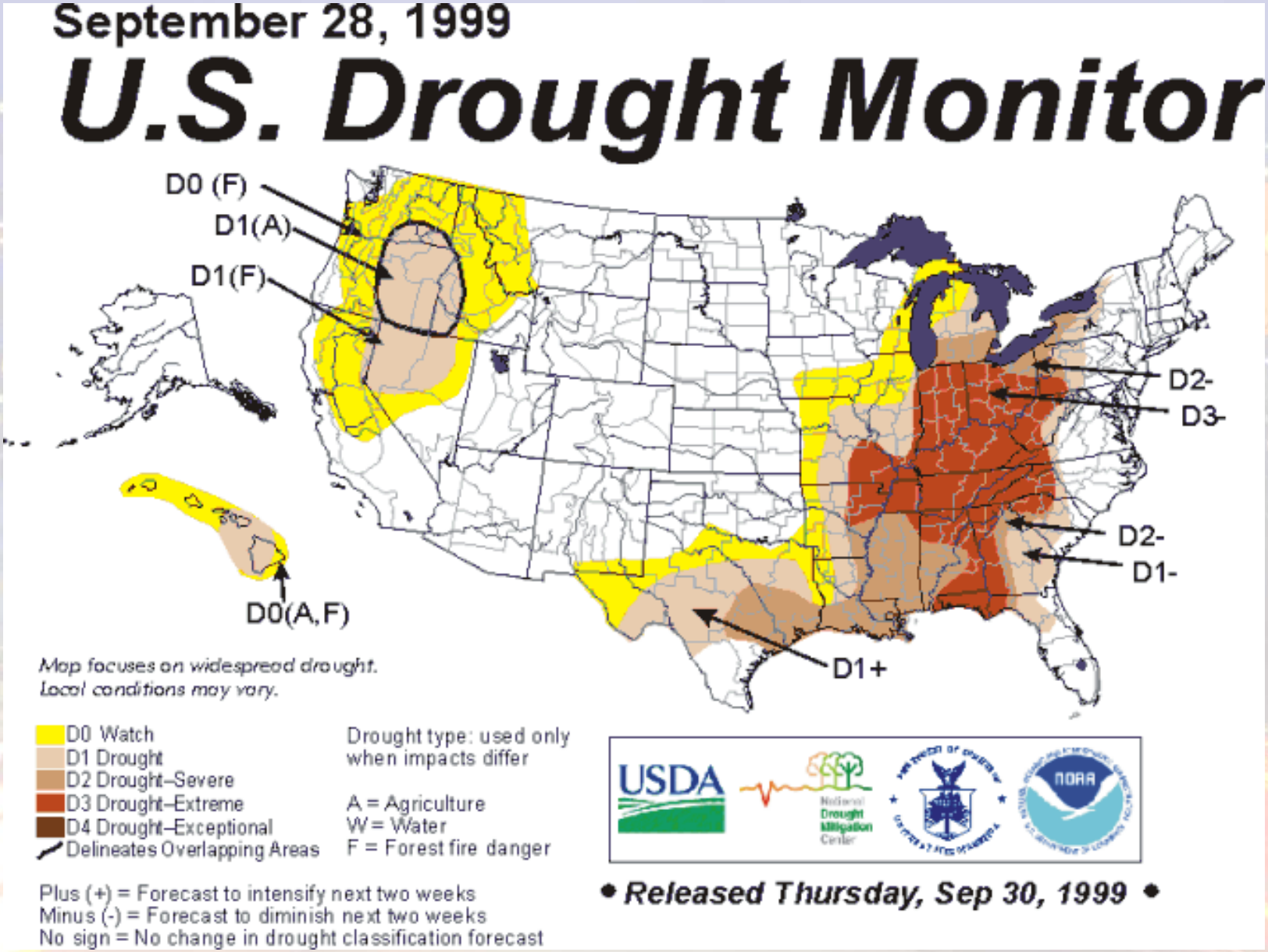
(1890 - Nov 2006)



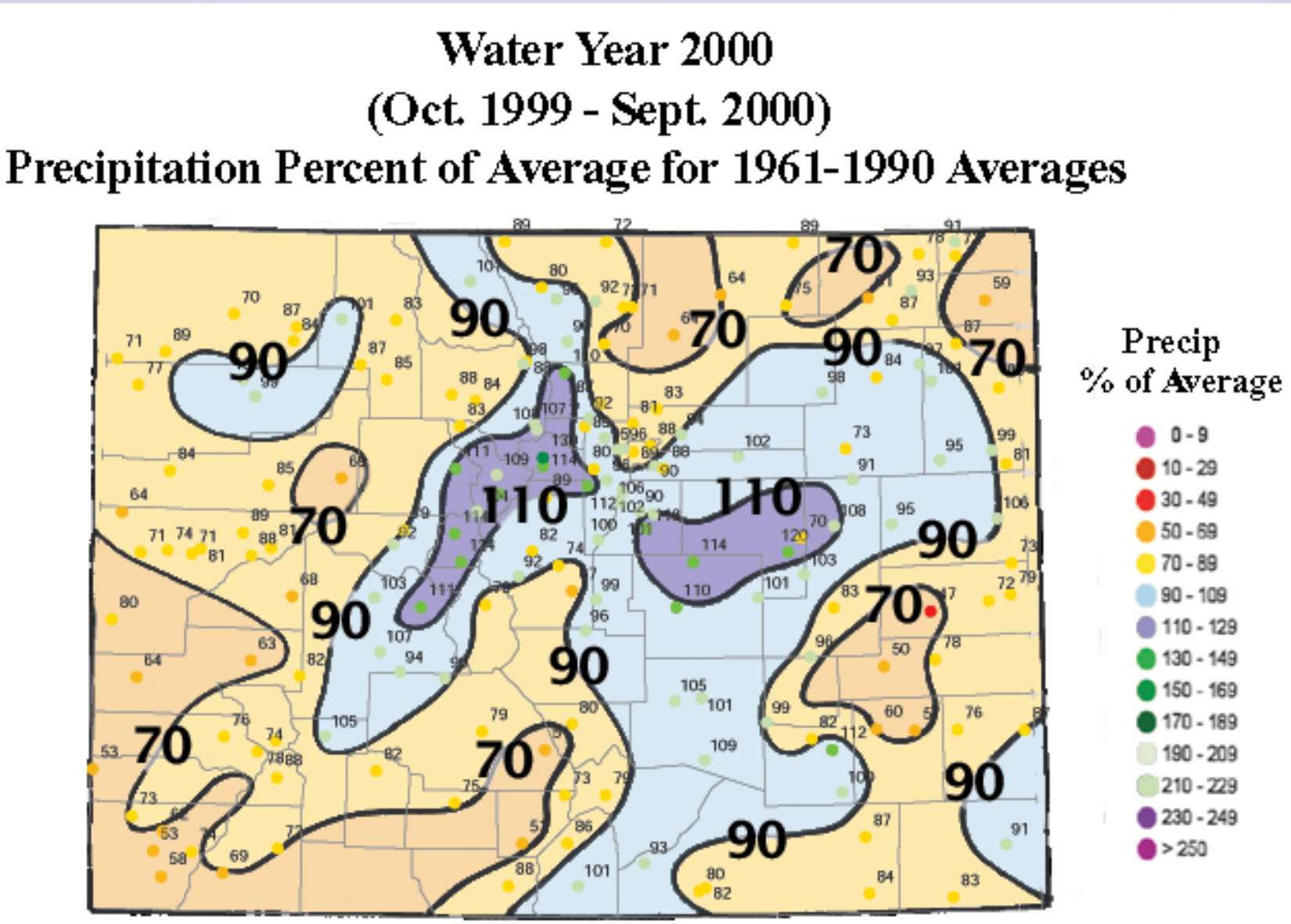
1999 Water Year Precipitation



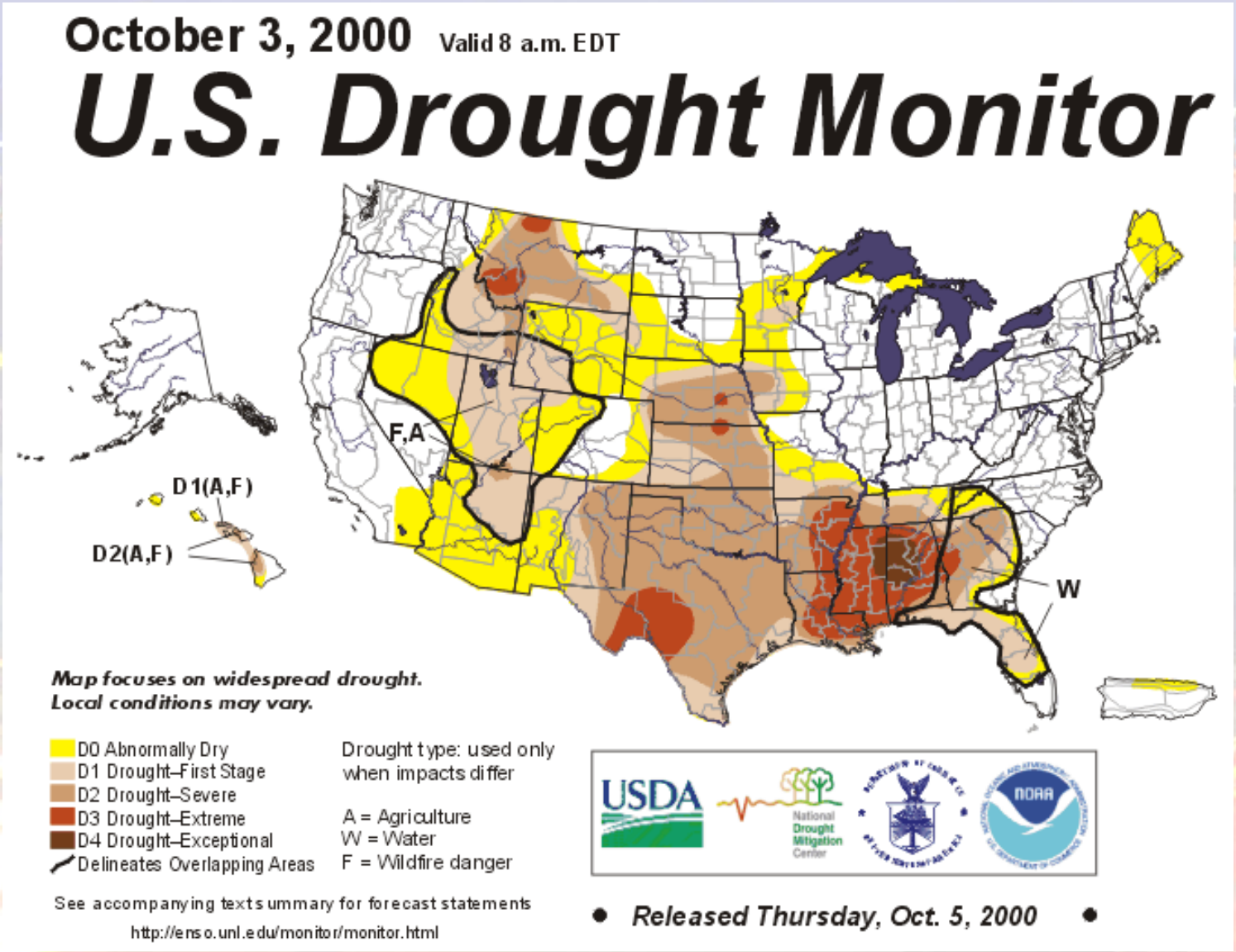
Sept 1999 Drought Monitor Map



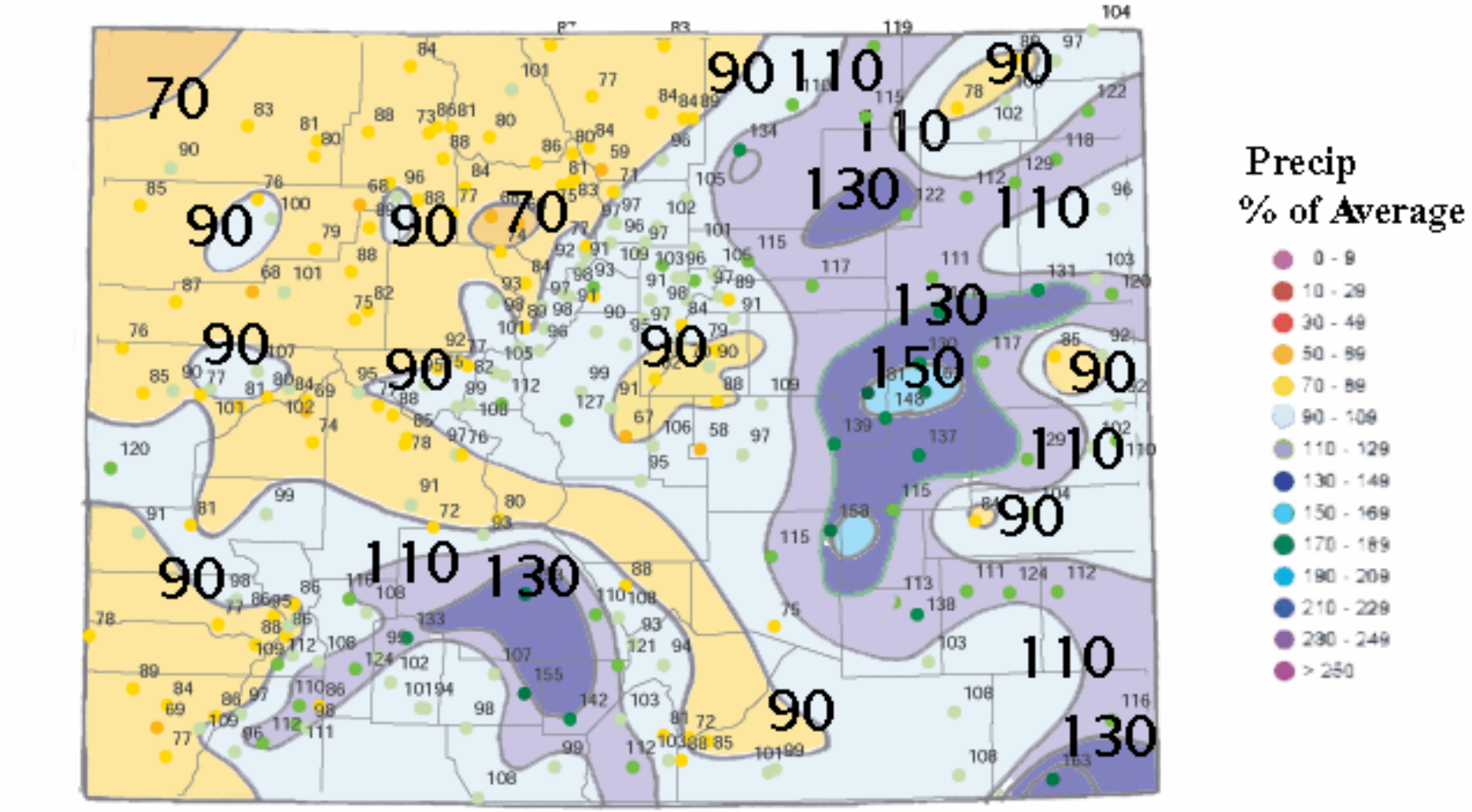
2000 Water Year Precipitation



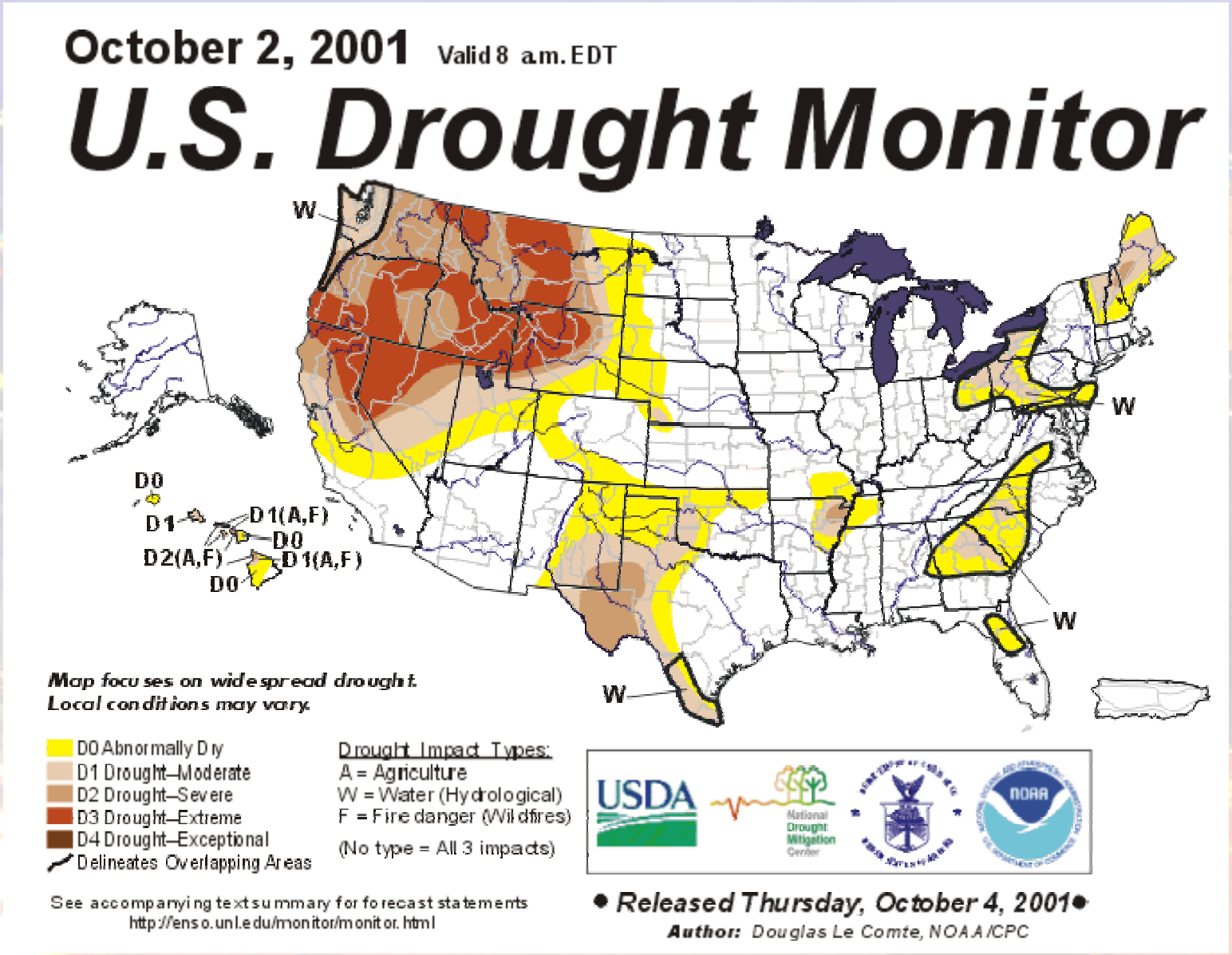
October 2000 Drought Monitor Map



2001 Water Year Precipitation

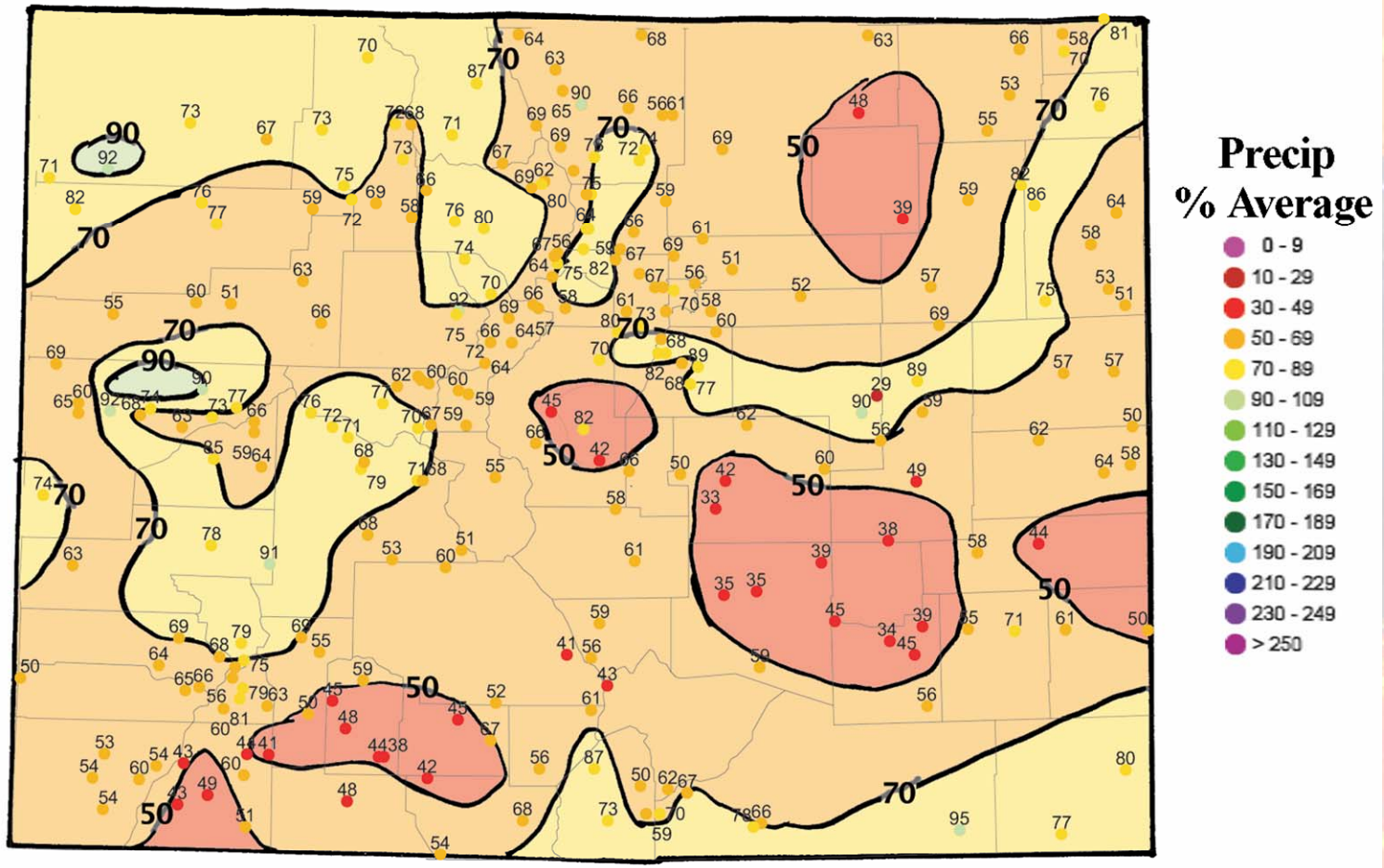


October 2001 Drought Monitor Map

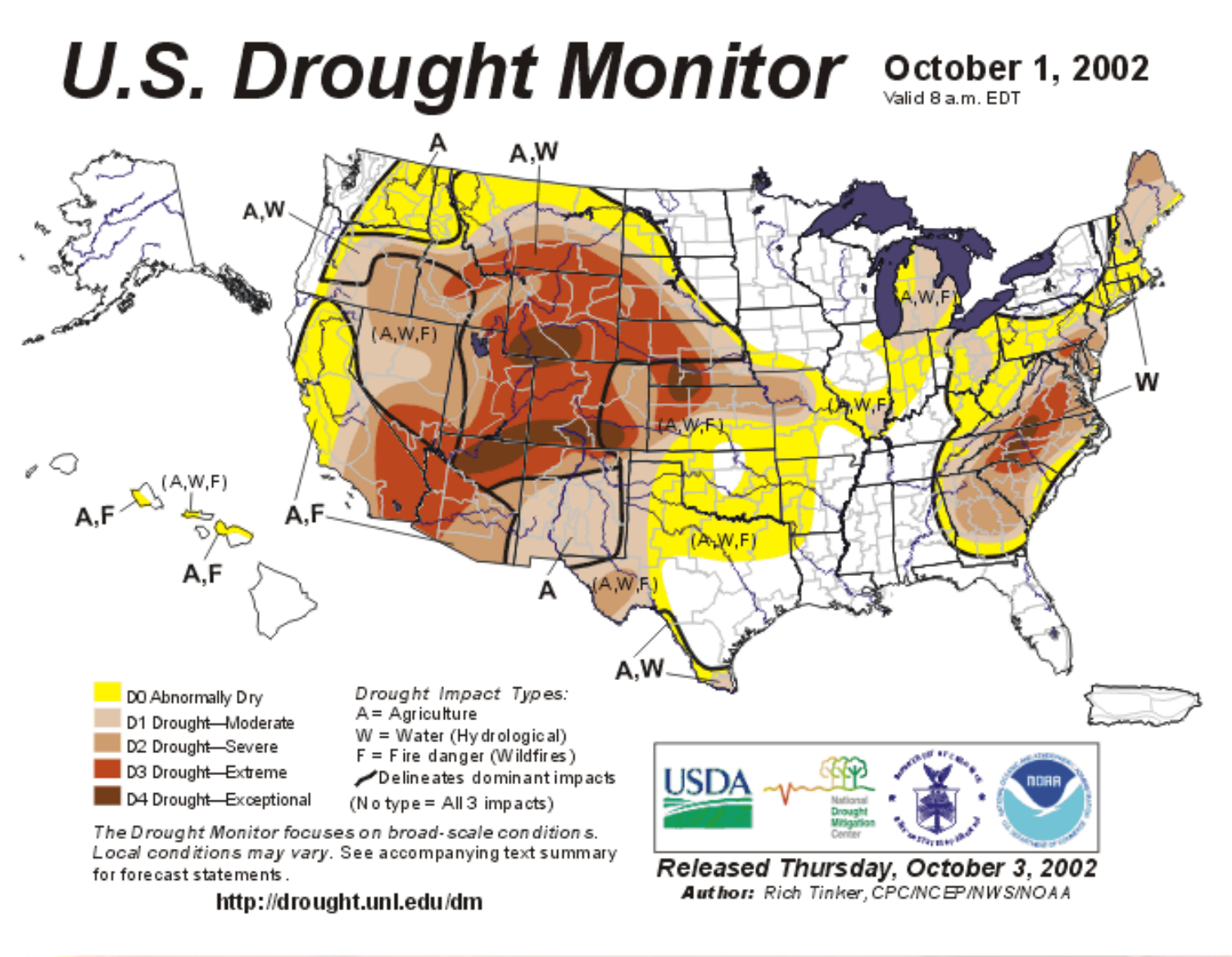


2002 Water Year Precipitation

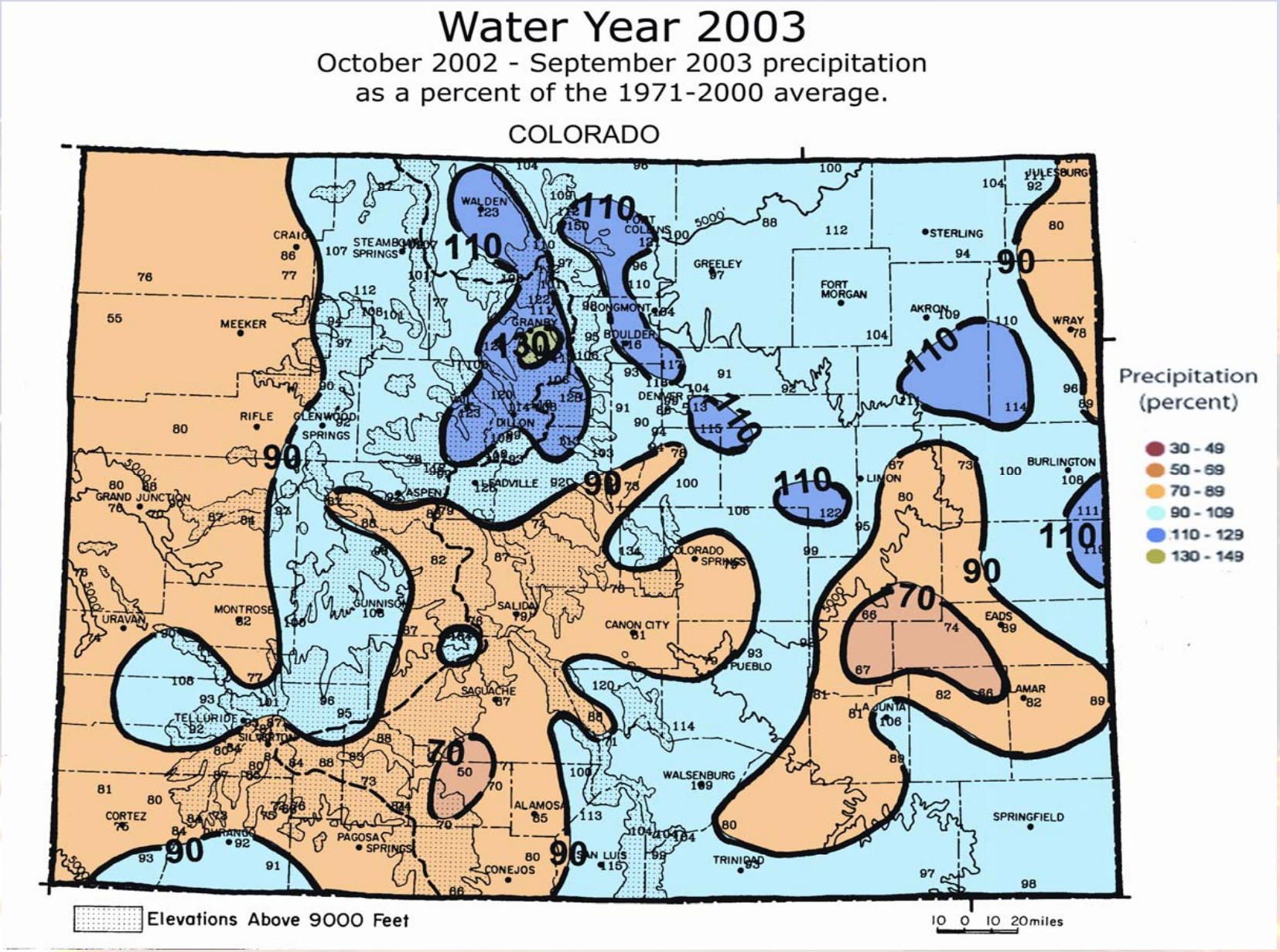
Water Year 2002
(Oct. 2001 - Sept. 2002)
Precipitation Percent of Average for 1961-1990 Averages



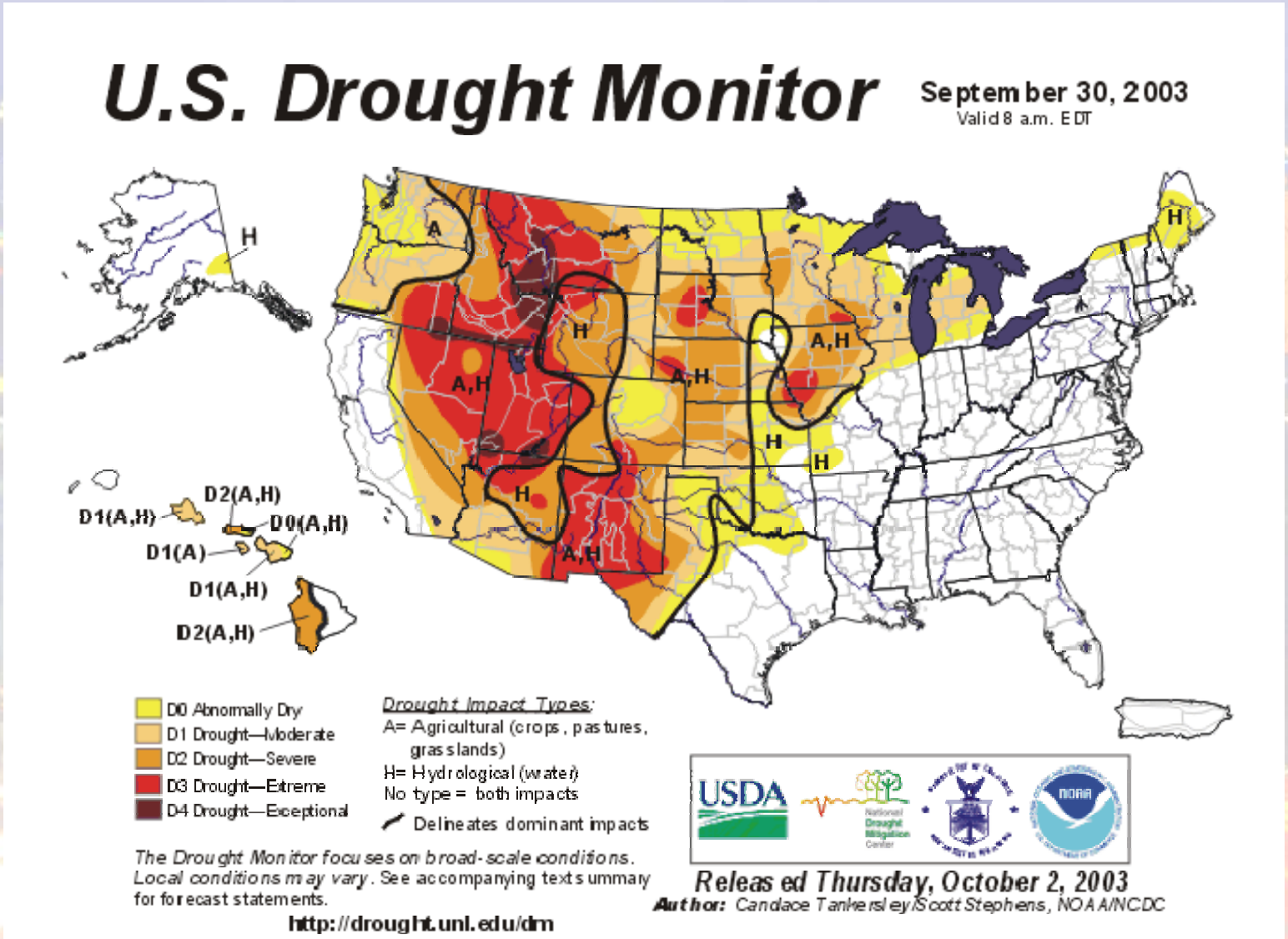
October 2002 Drought Monitor Map



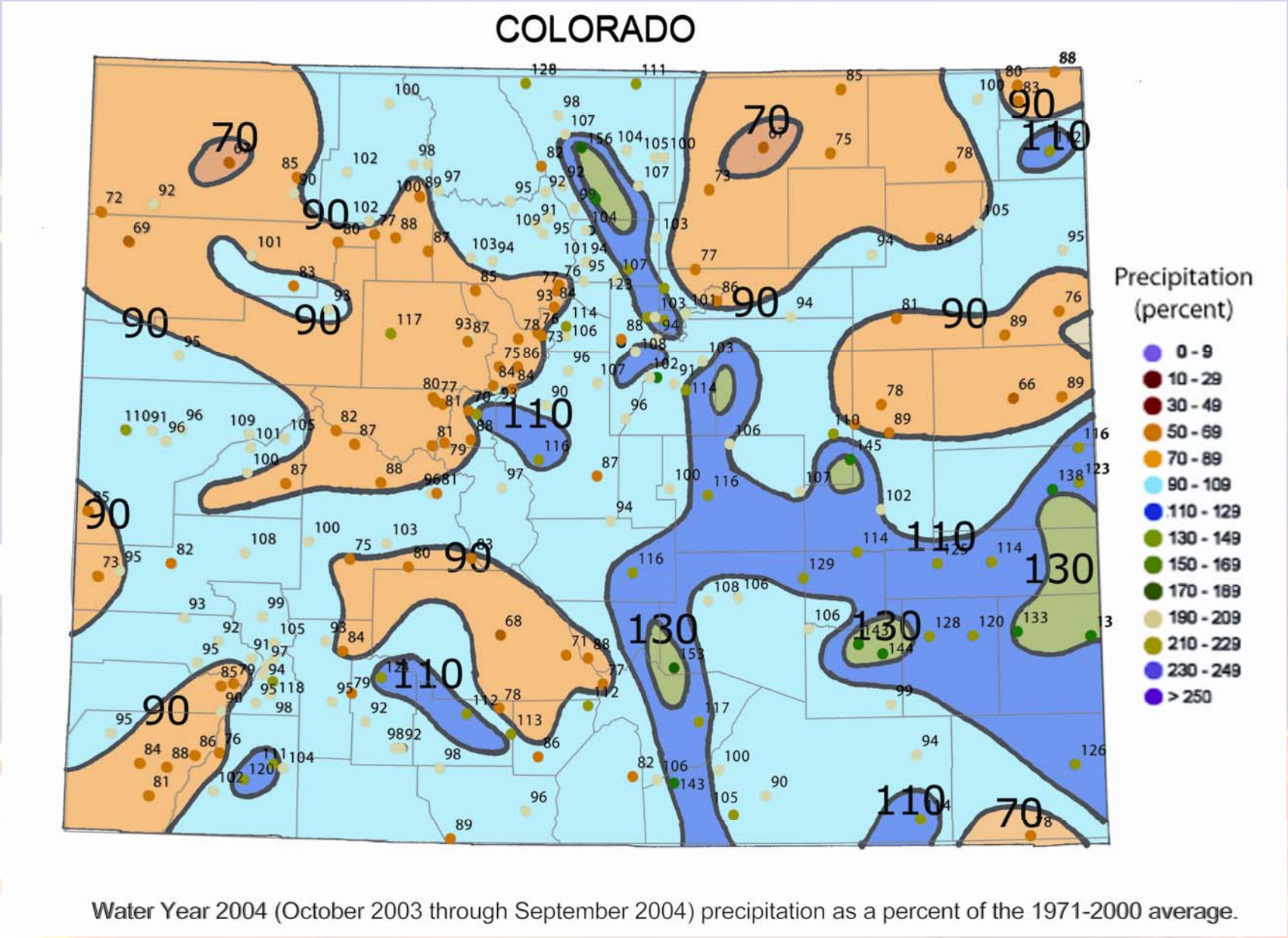
2003 Water Year Precipitation



September 2003 Drought Monitor Map

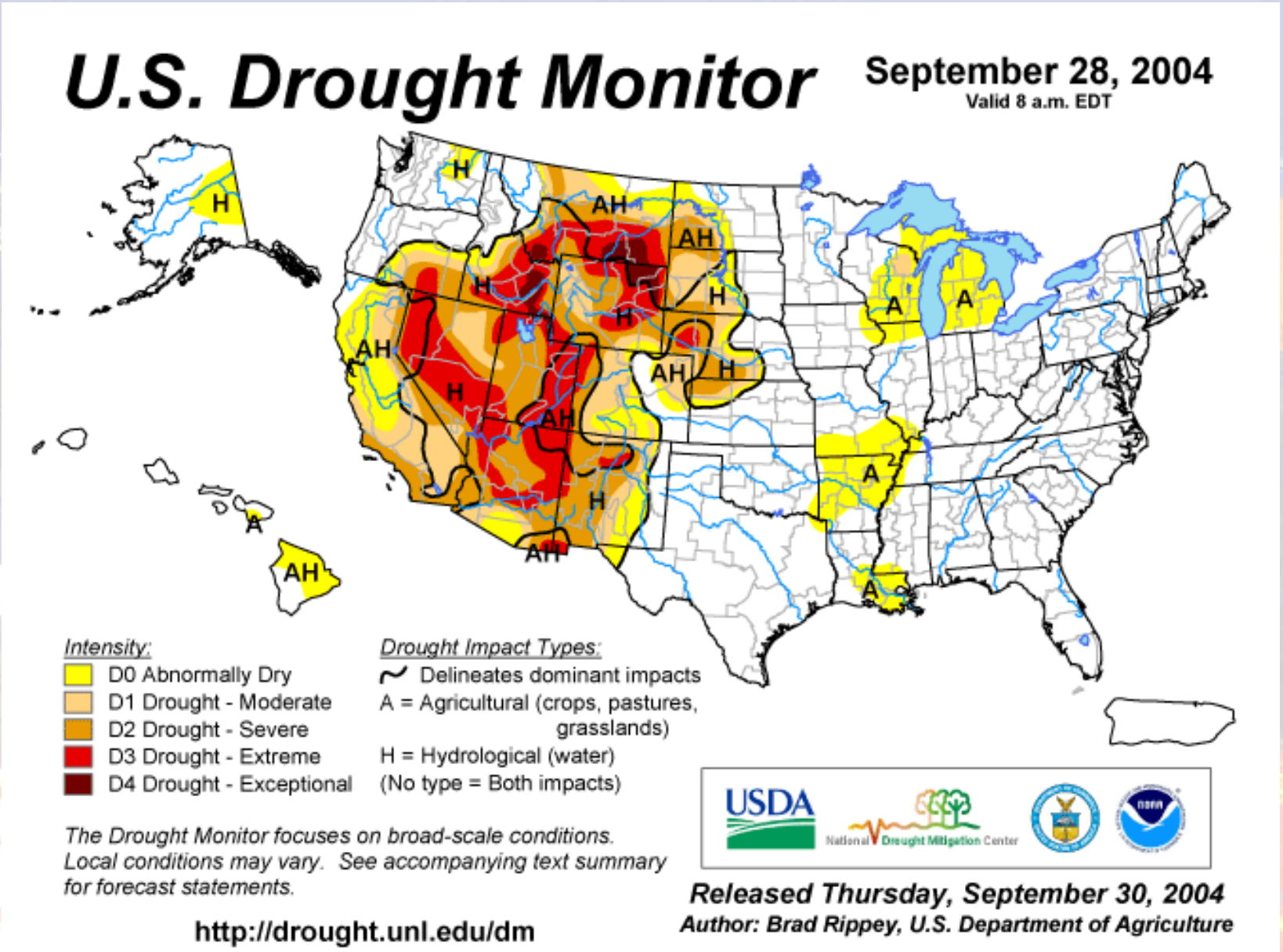


2004 Water Year Precipitation

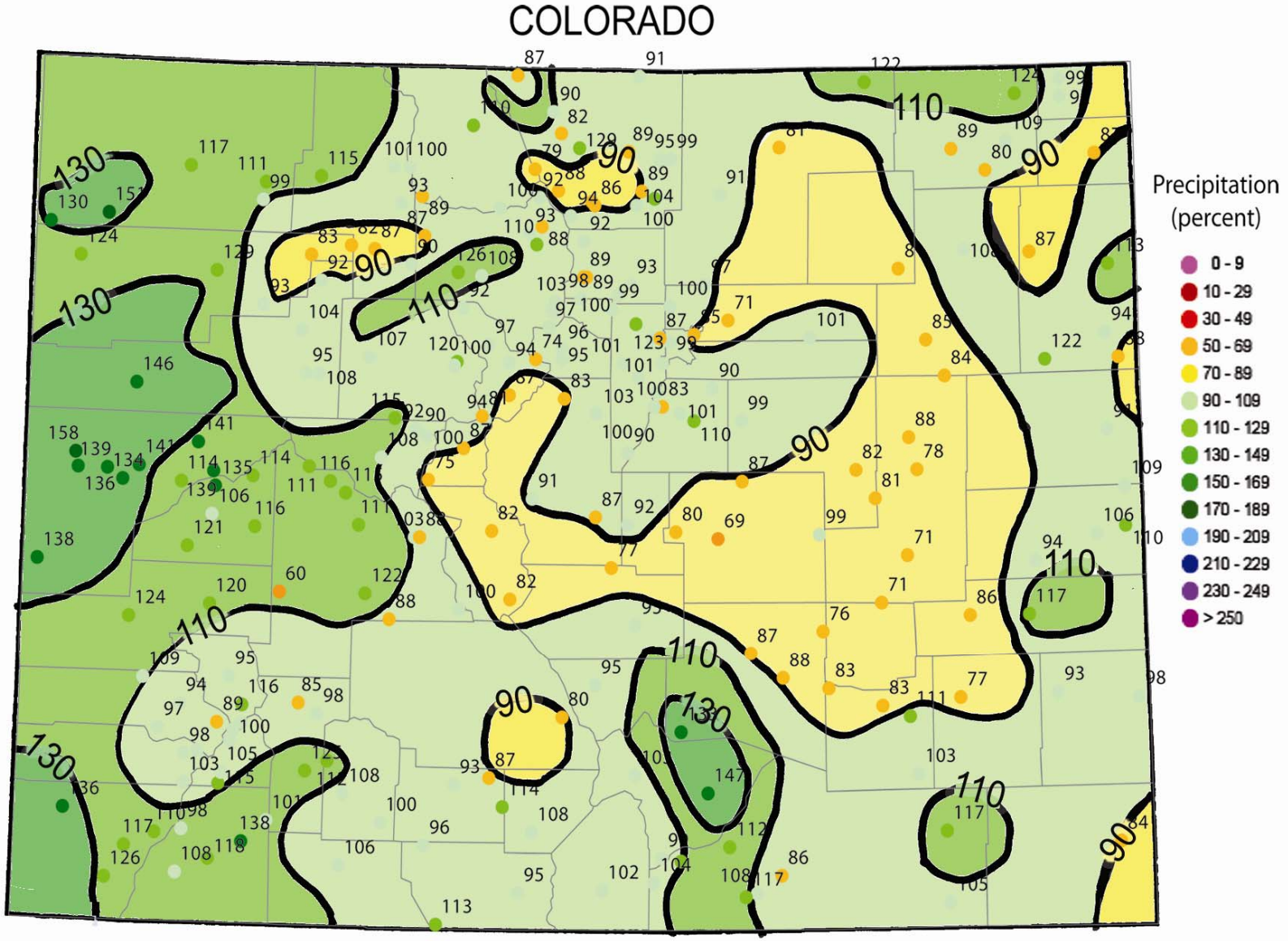


Water Year 2004 (October 2003 through September 2004) precipitation as a percent of the 1971-2000 average.

September 2004 Drought Monitor Map

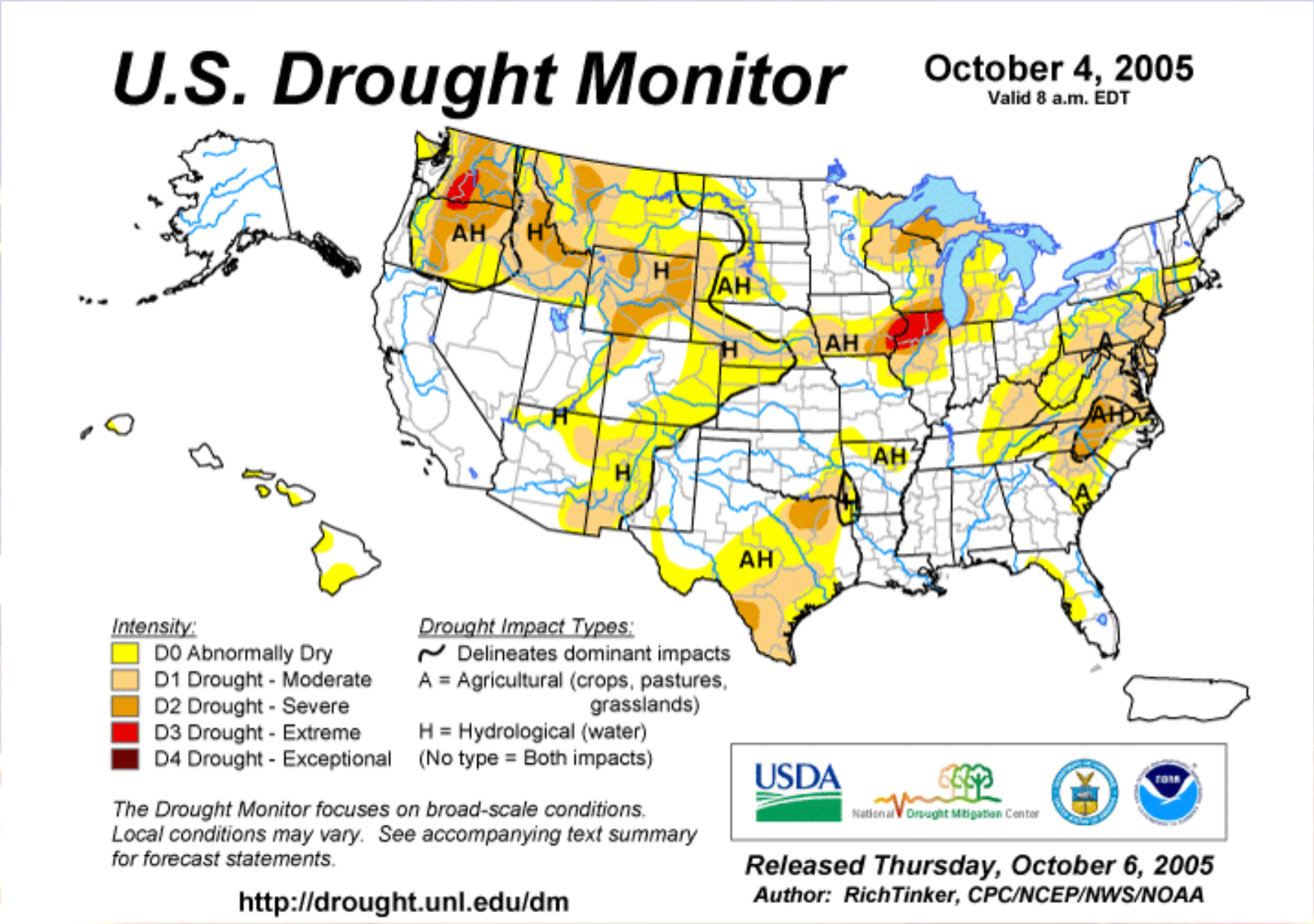


2005 Water Year Precipitation



Water Year 2005 (Oct 04 - Sep 05) precipitation as a percent of the 1971-2000 average.

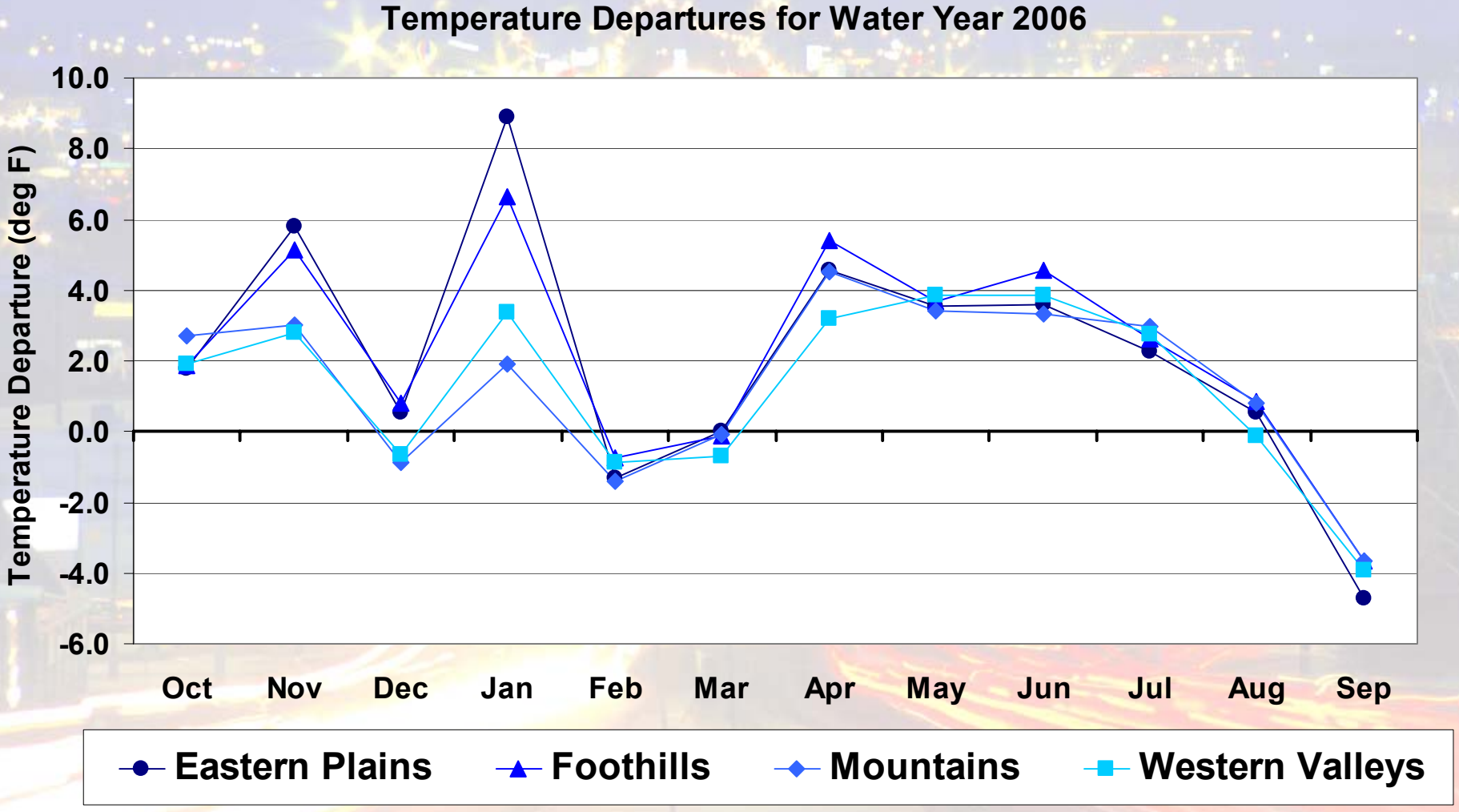
October 2005 Drought Monitor Map



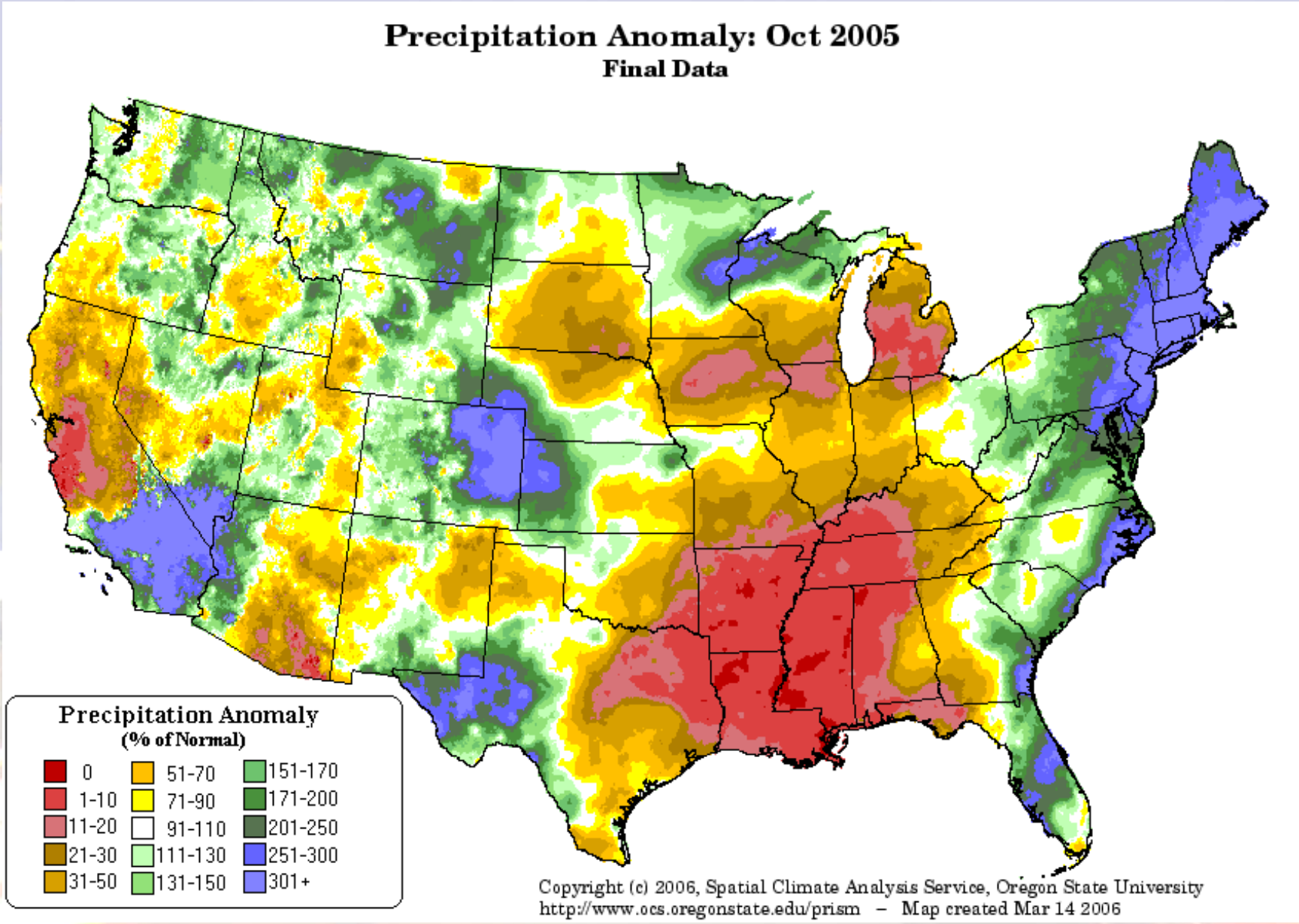
What happened this past year? WY2006 Highlights

- Soaking October storm – especially over Eastern Colorado
- Windy, dry winter over Foothills and Eastern Plains
- Frequent midwinter snows Northern Mountains
- Very warm and dry spring (tough on Agriculture)
- Early July soaking
- Wet summer over much of southern Colorado
- A chilly ending to another warm year

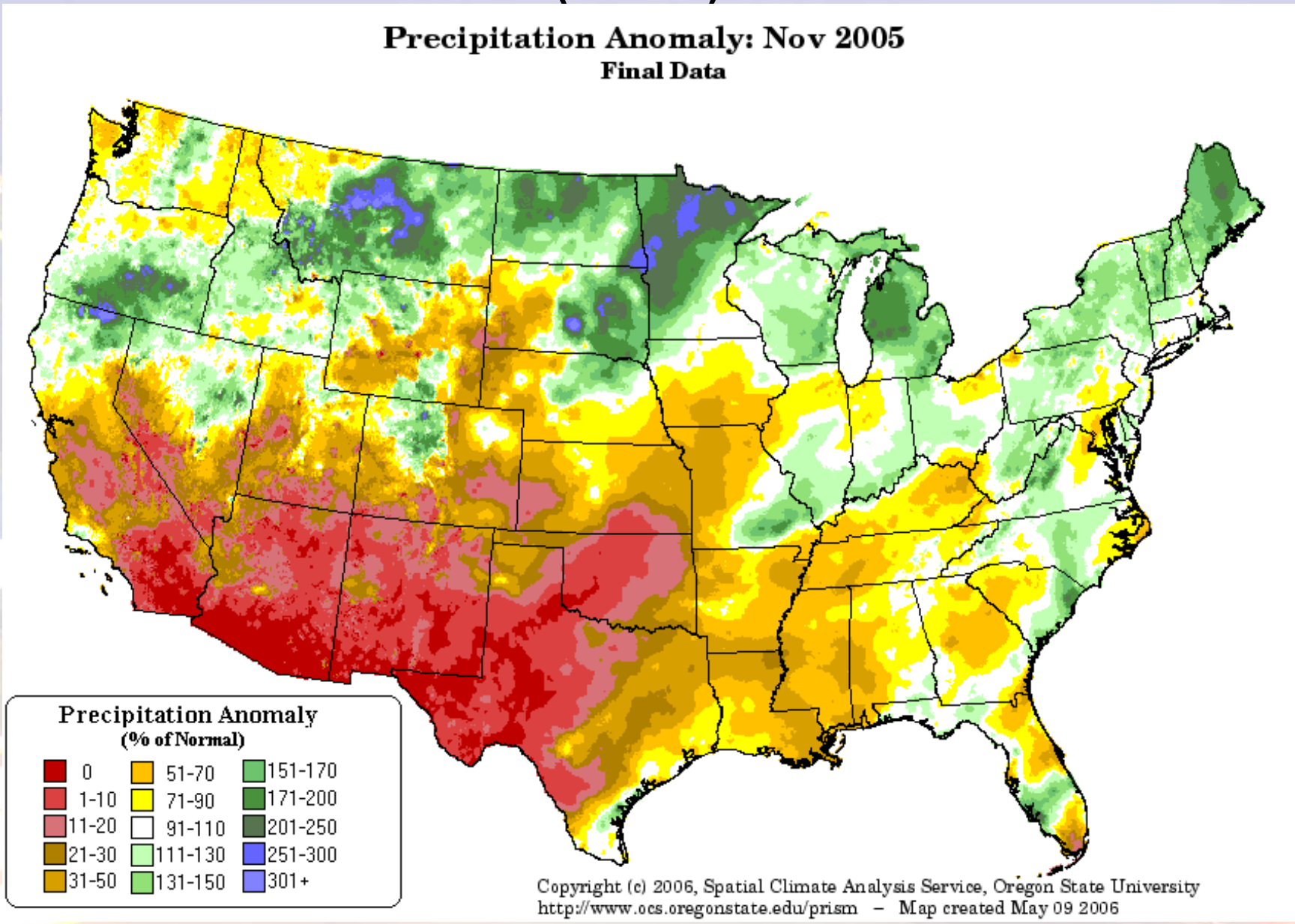
Water Year 2006 temperature departures from 1971-2000 average



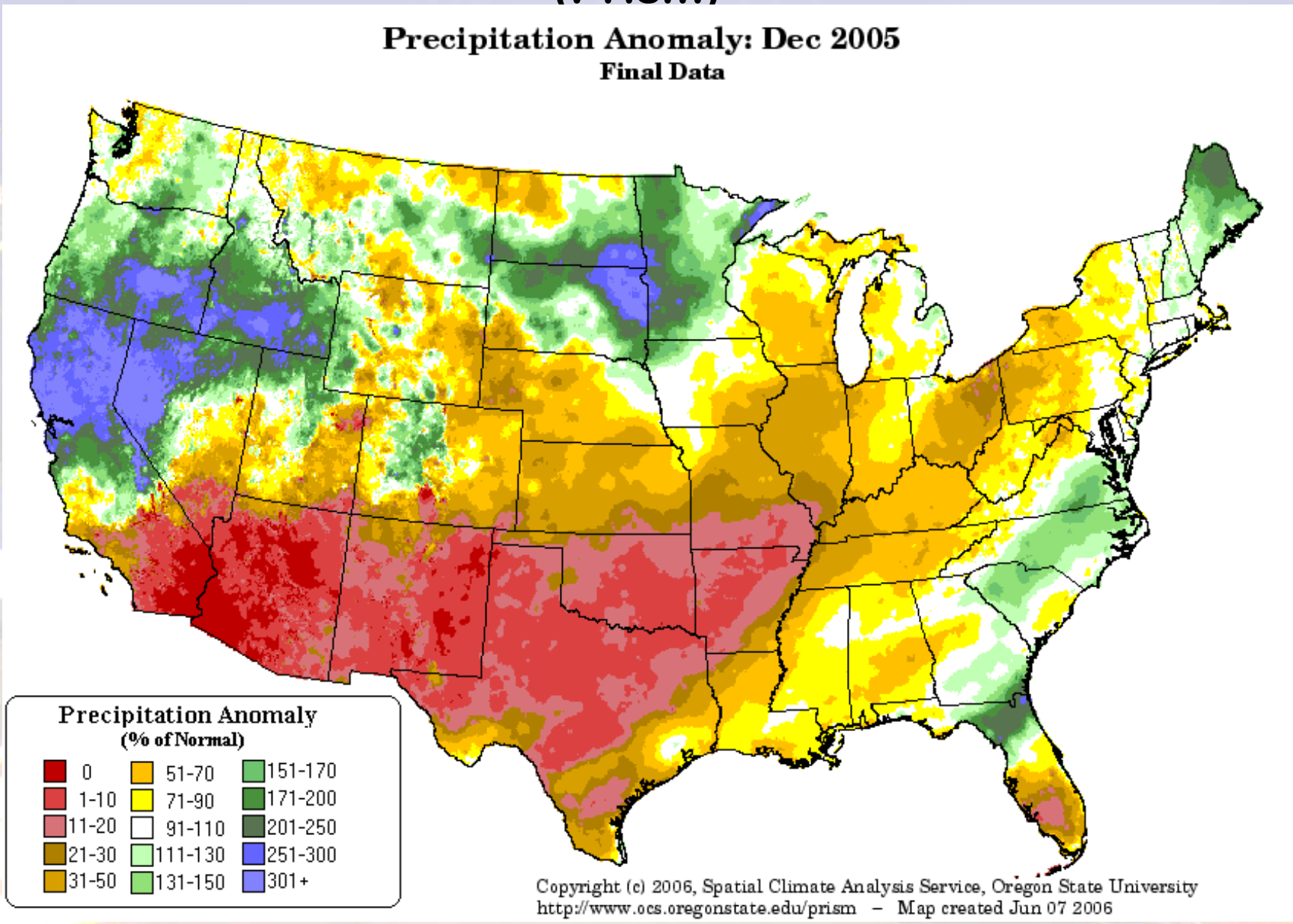
October 2005 precipitation as percent of average (Prism)



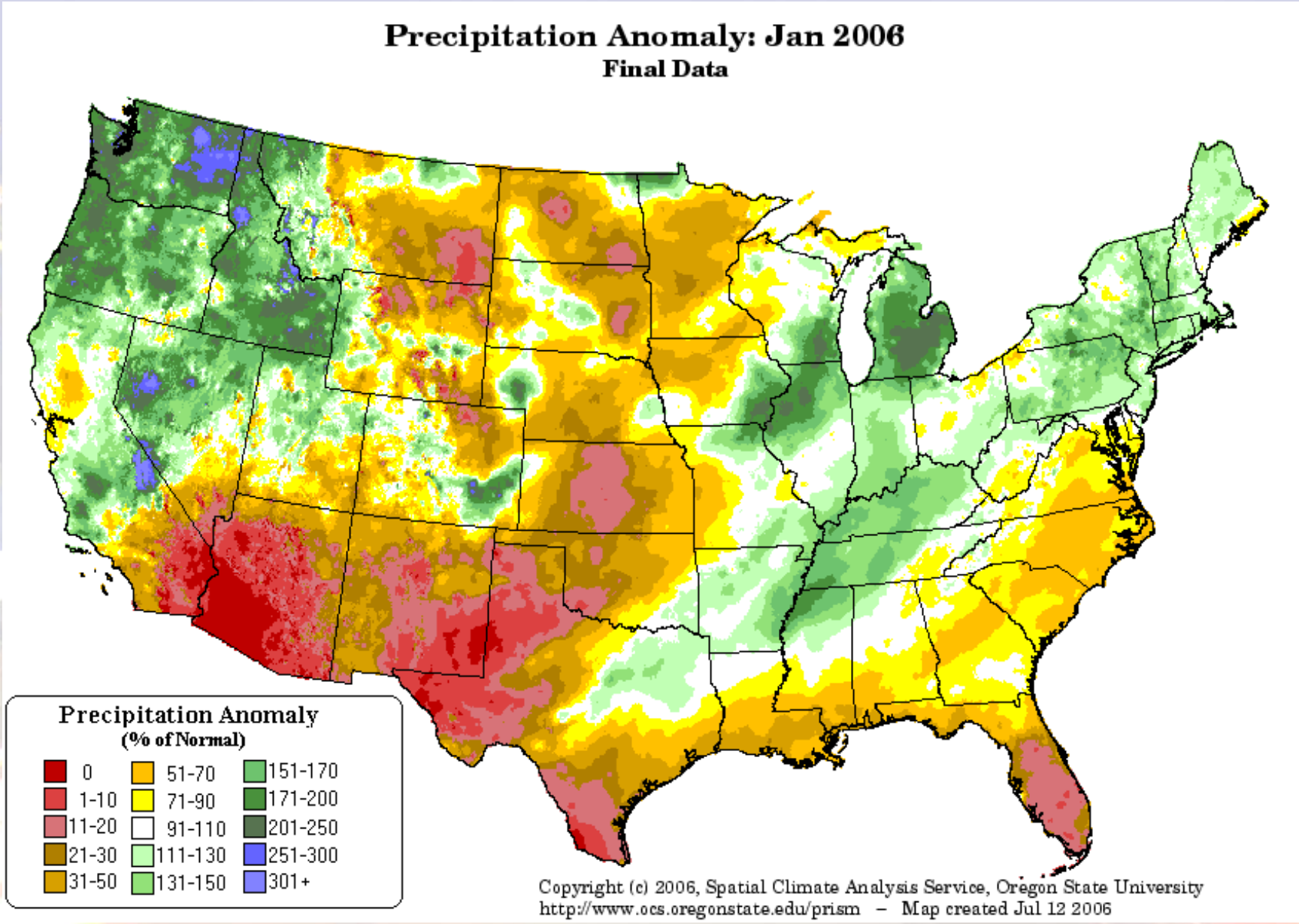
November 2005 precipitation as percent of average (Prism)



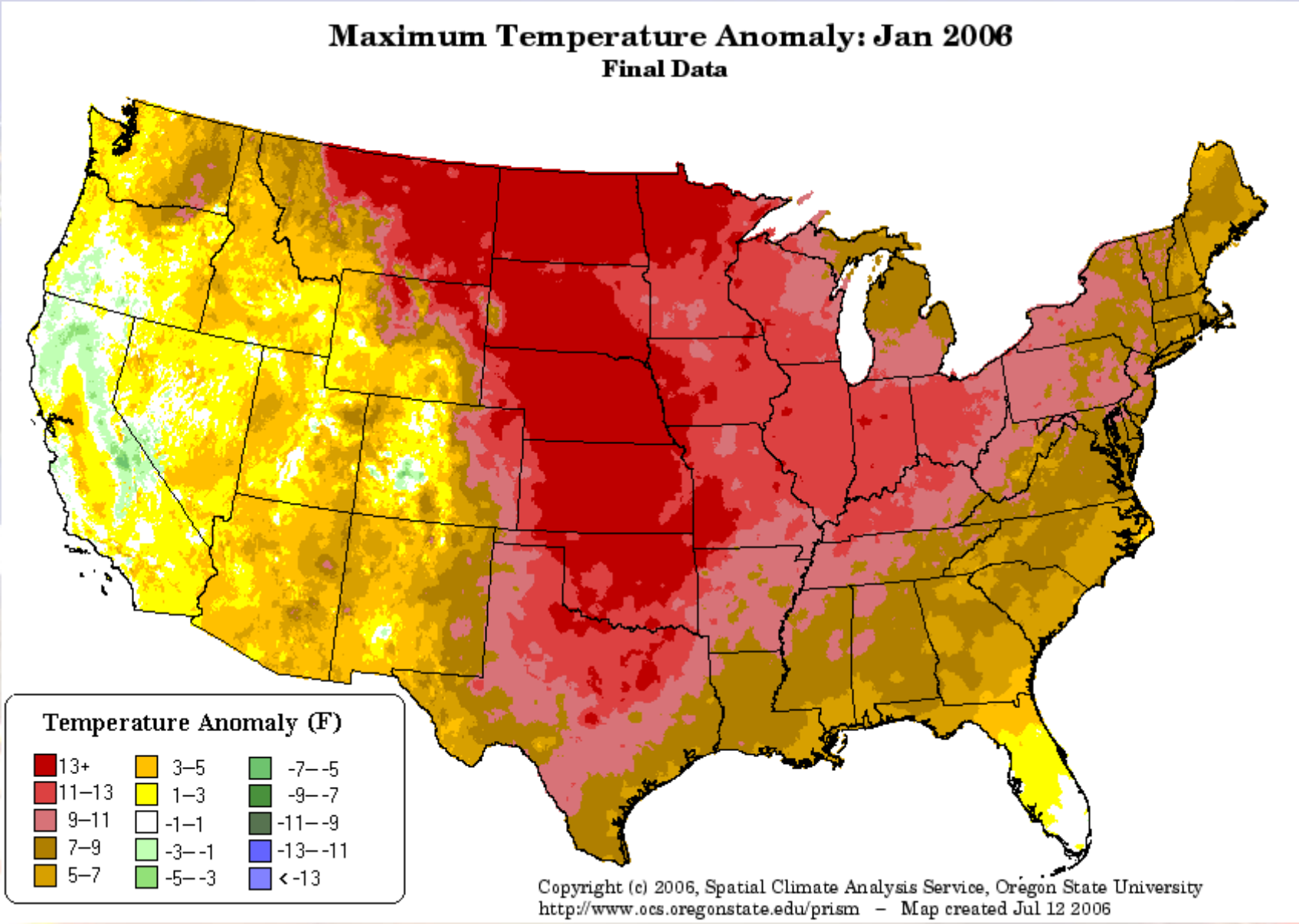
December 2005 precipitation as a percent of average (Prism)



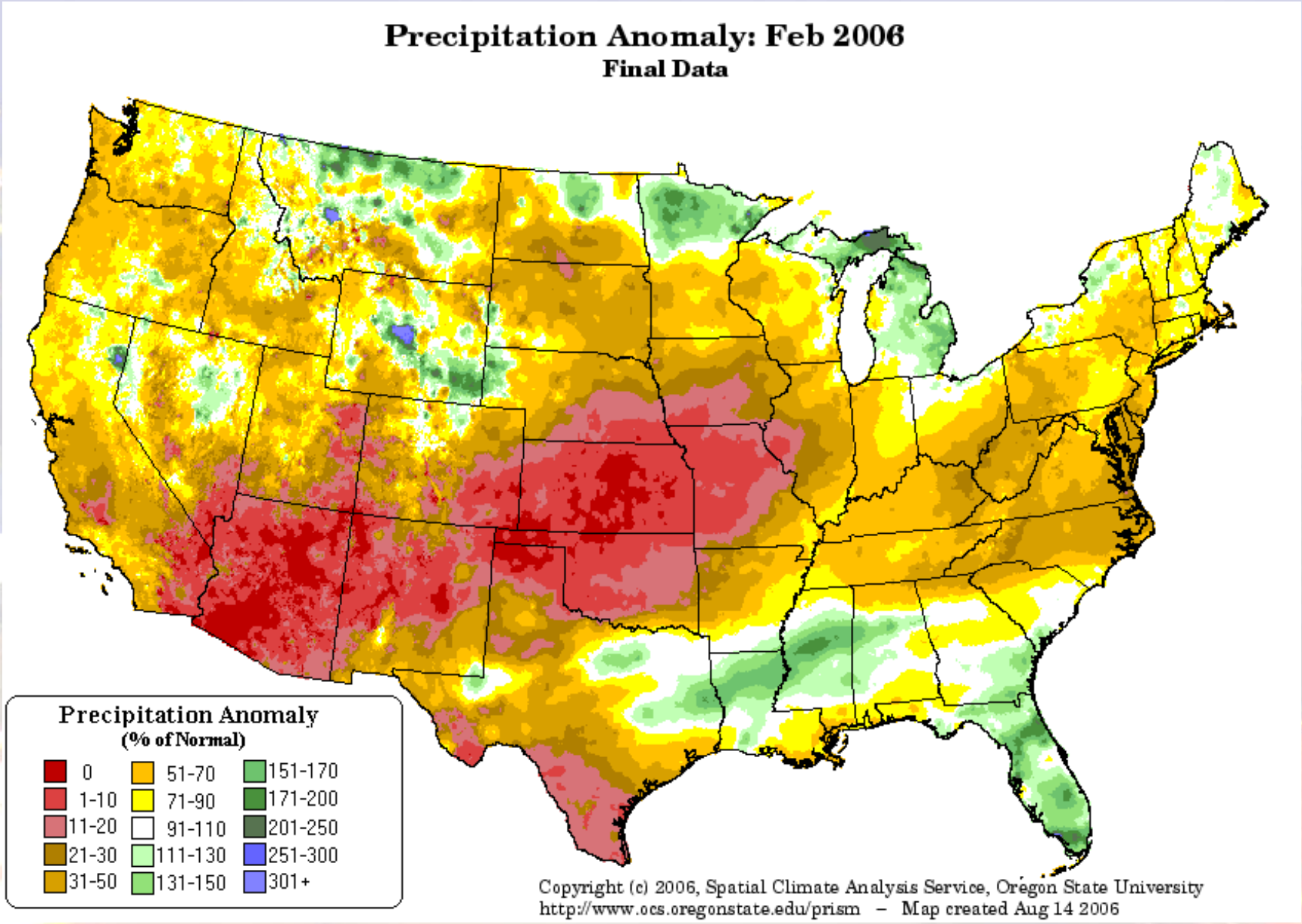
January 2006 precipitation as a percent of average (Prism)



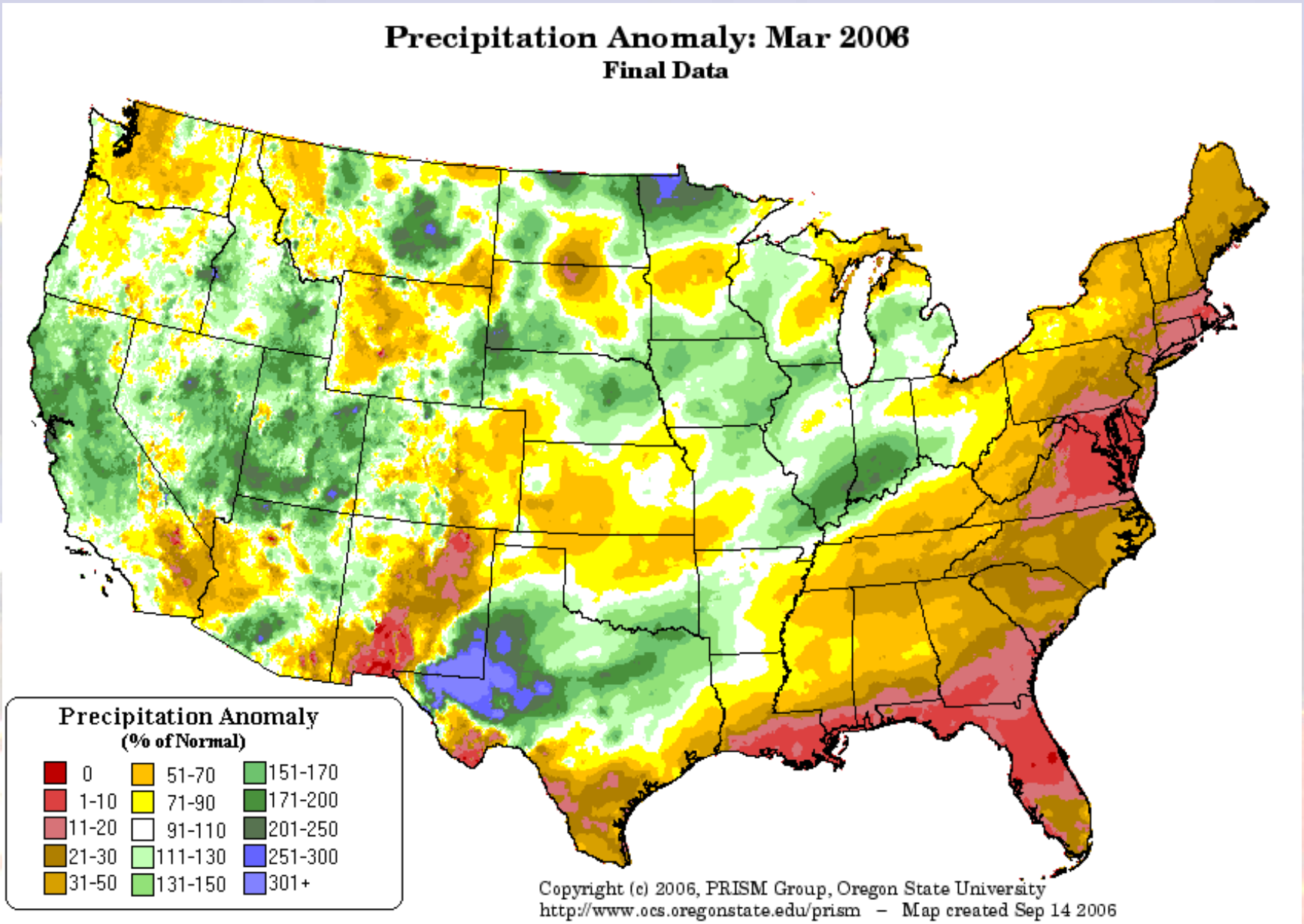
January 2006 Temperature departure from average (Prism)



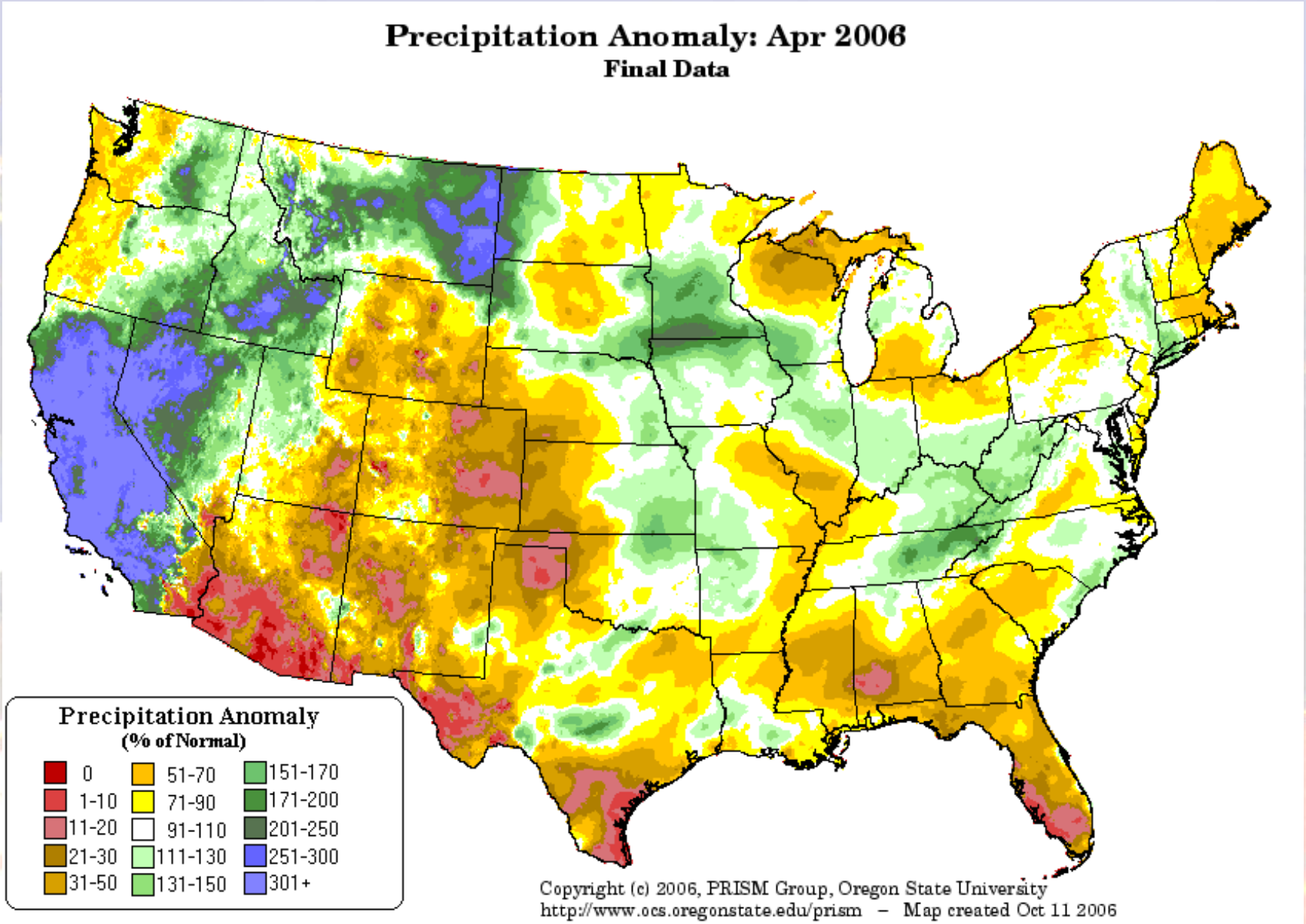
February 2006 precipitation as a percent of average (Prism)



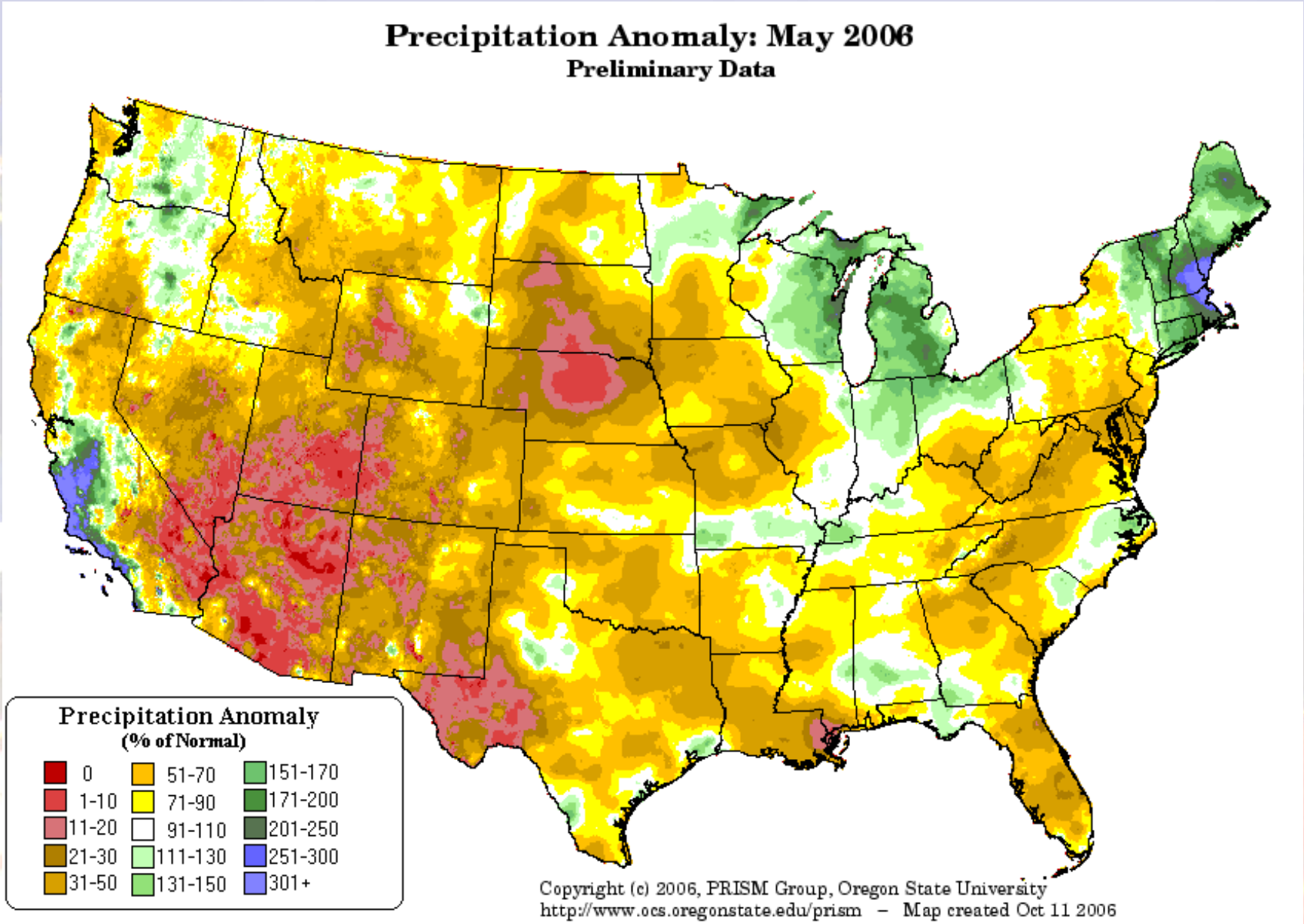
March 2006 precipitation as a percent of average (Prism)



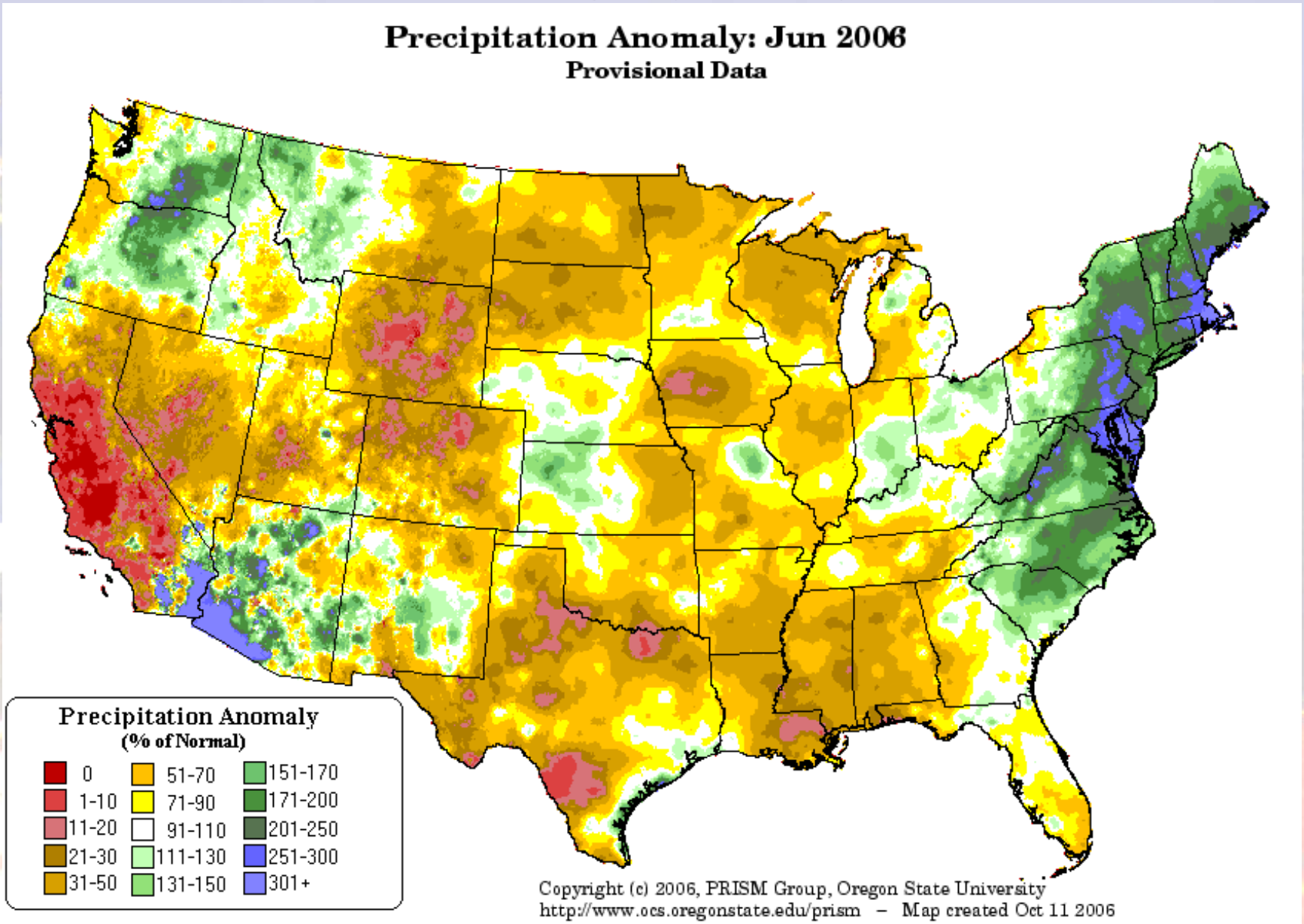
April 2006 precipitation as a percent of average (Prism)



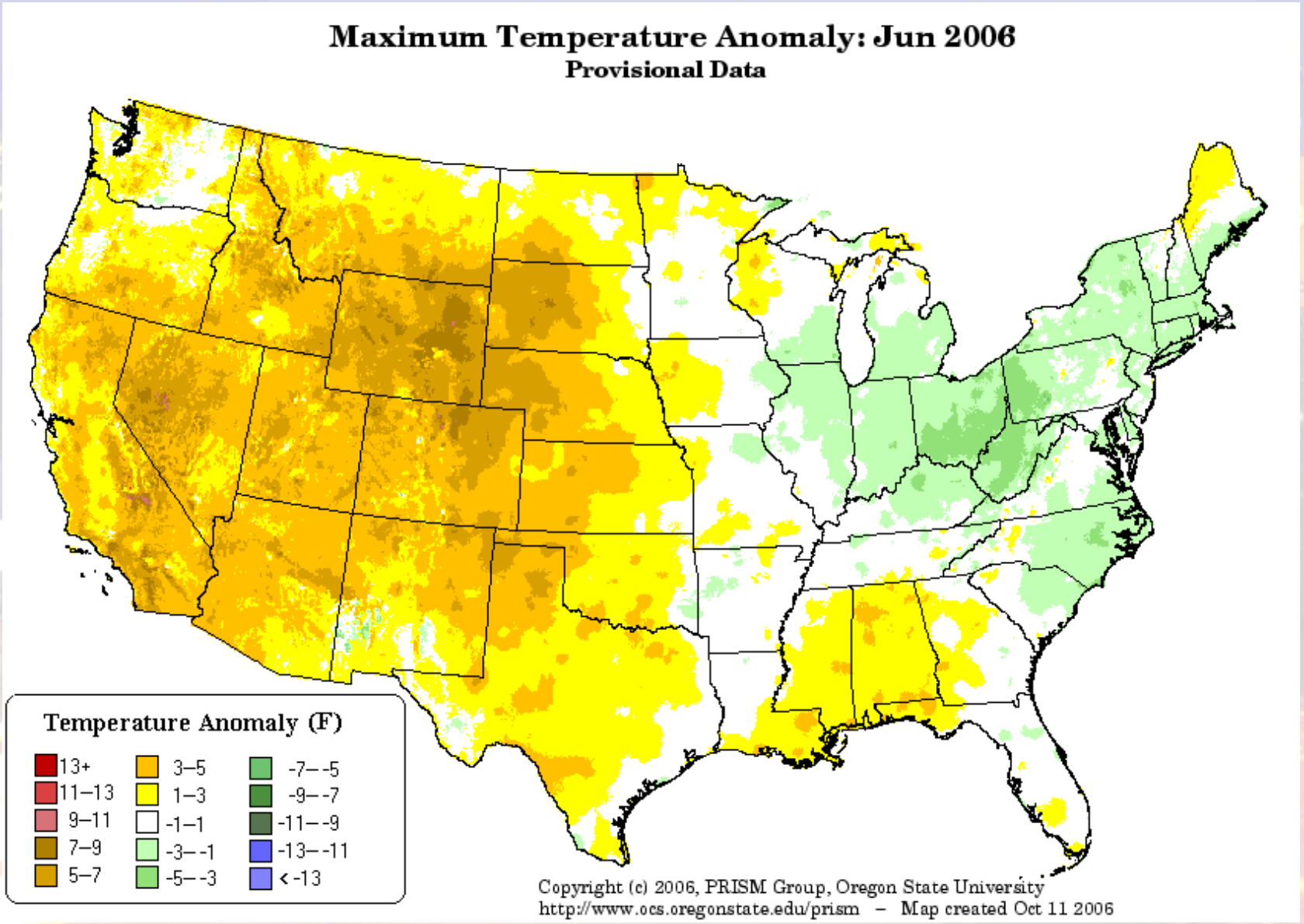
May 2006 precipitation as a percent of average (Prism)



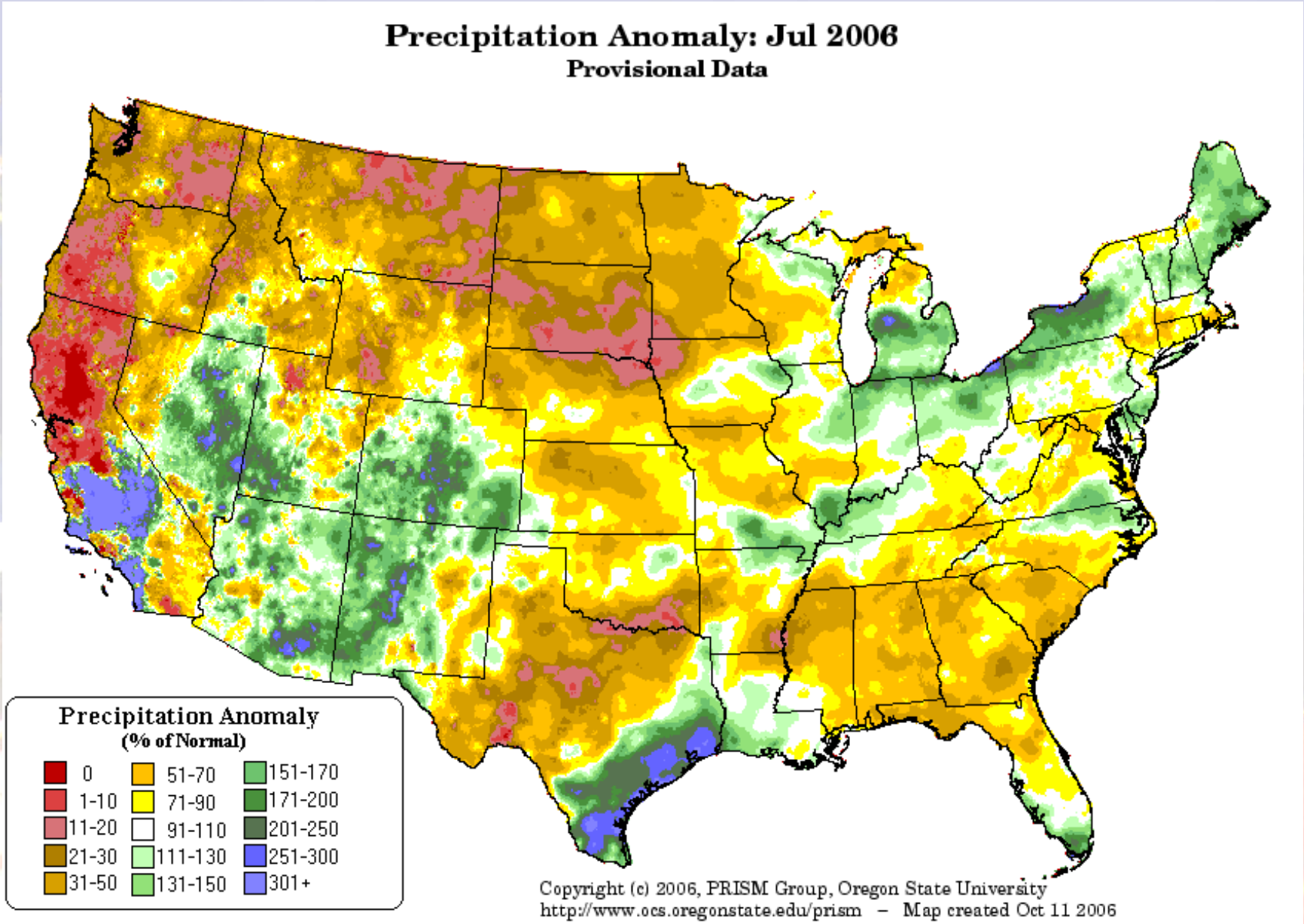
June 2006 precipitation as a percent of average (Prism)



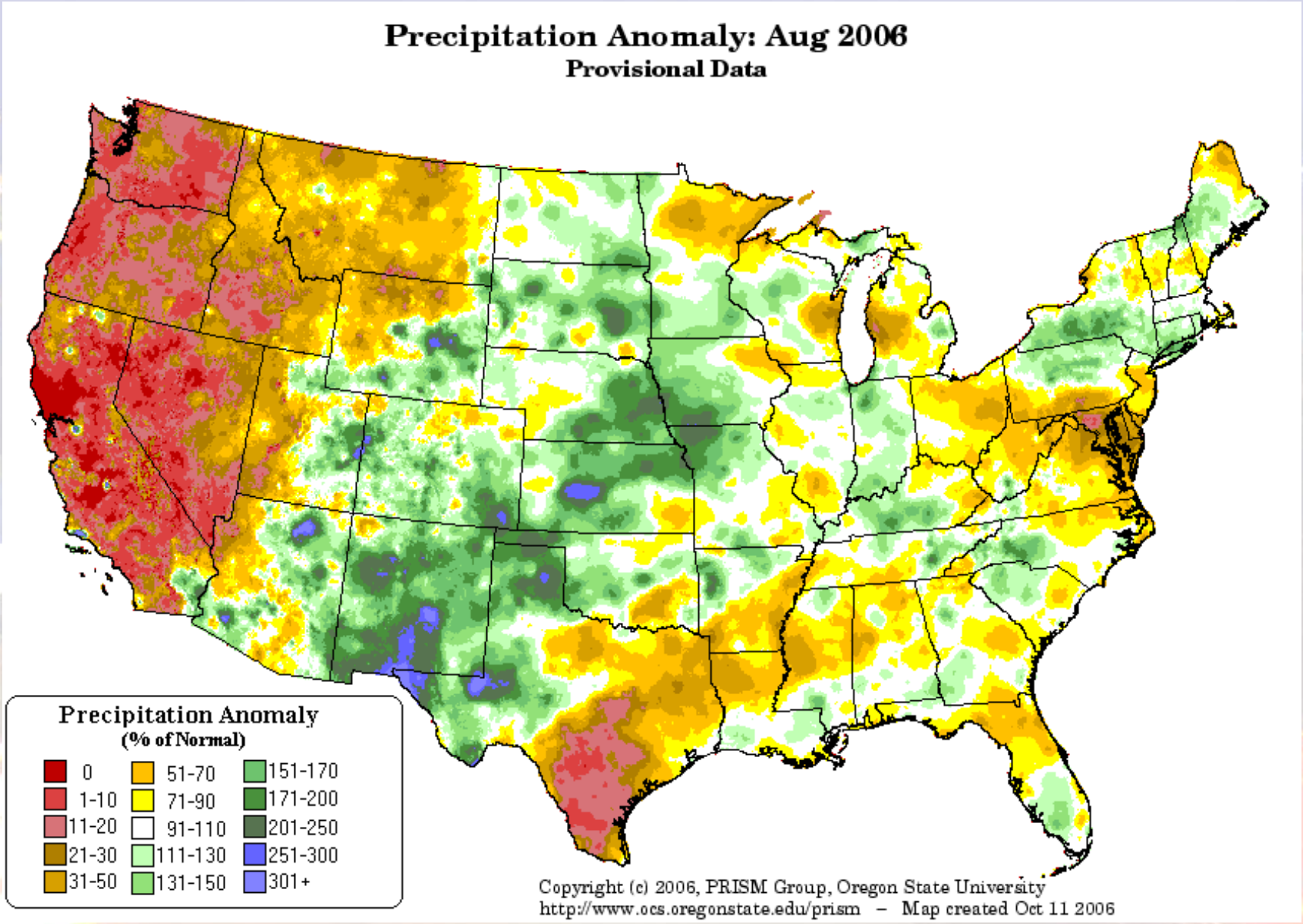
June 2006 Temperature departure from average (Prism)



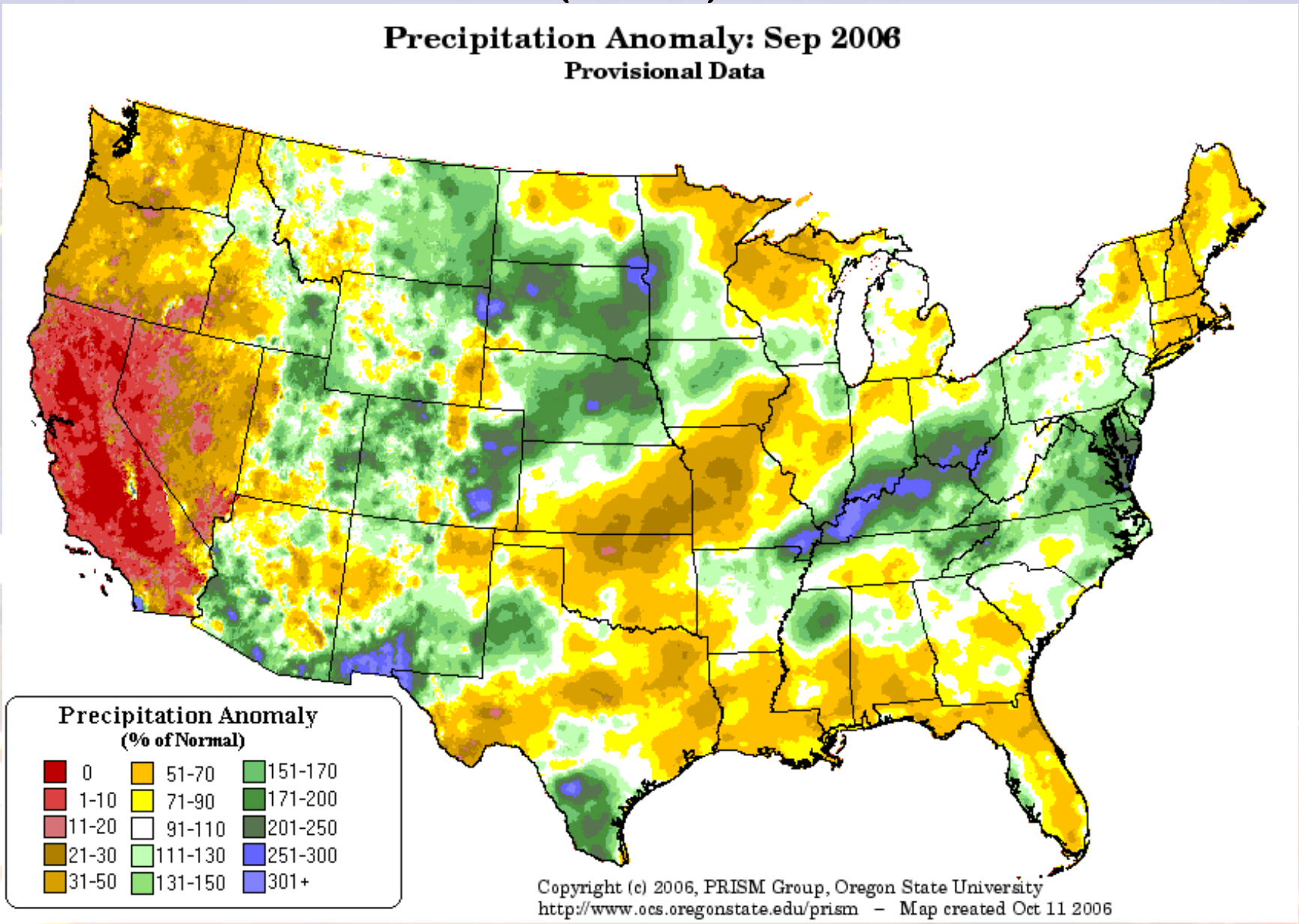
July 2006 precipitation as a percent of average (Prism)



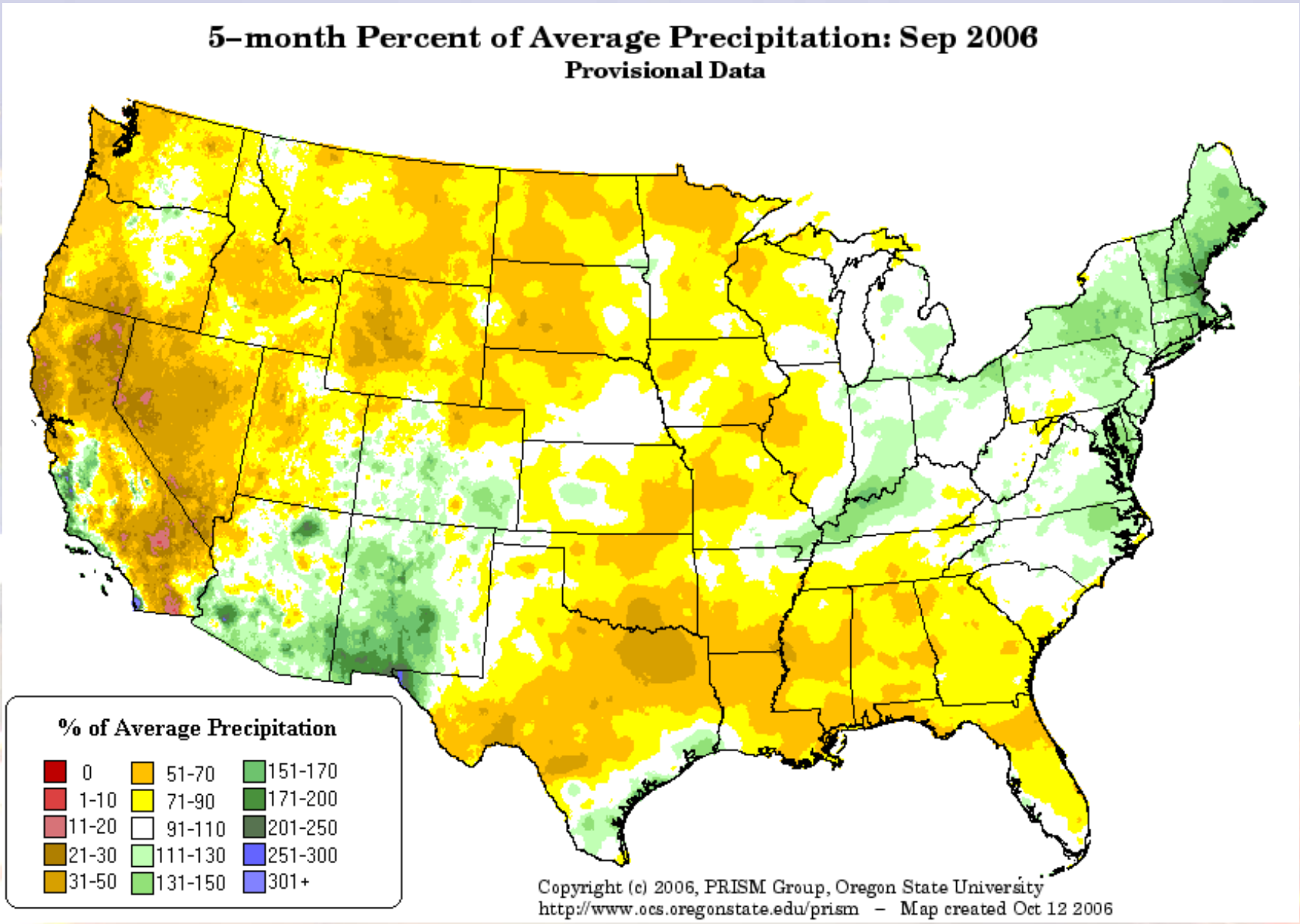
August 2006 precipitation as a percent of average (Prism)



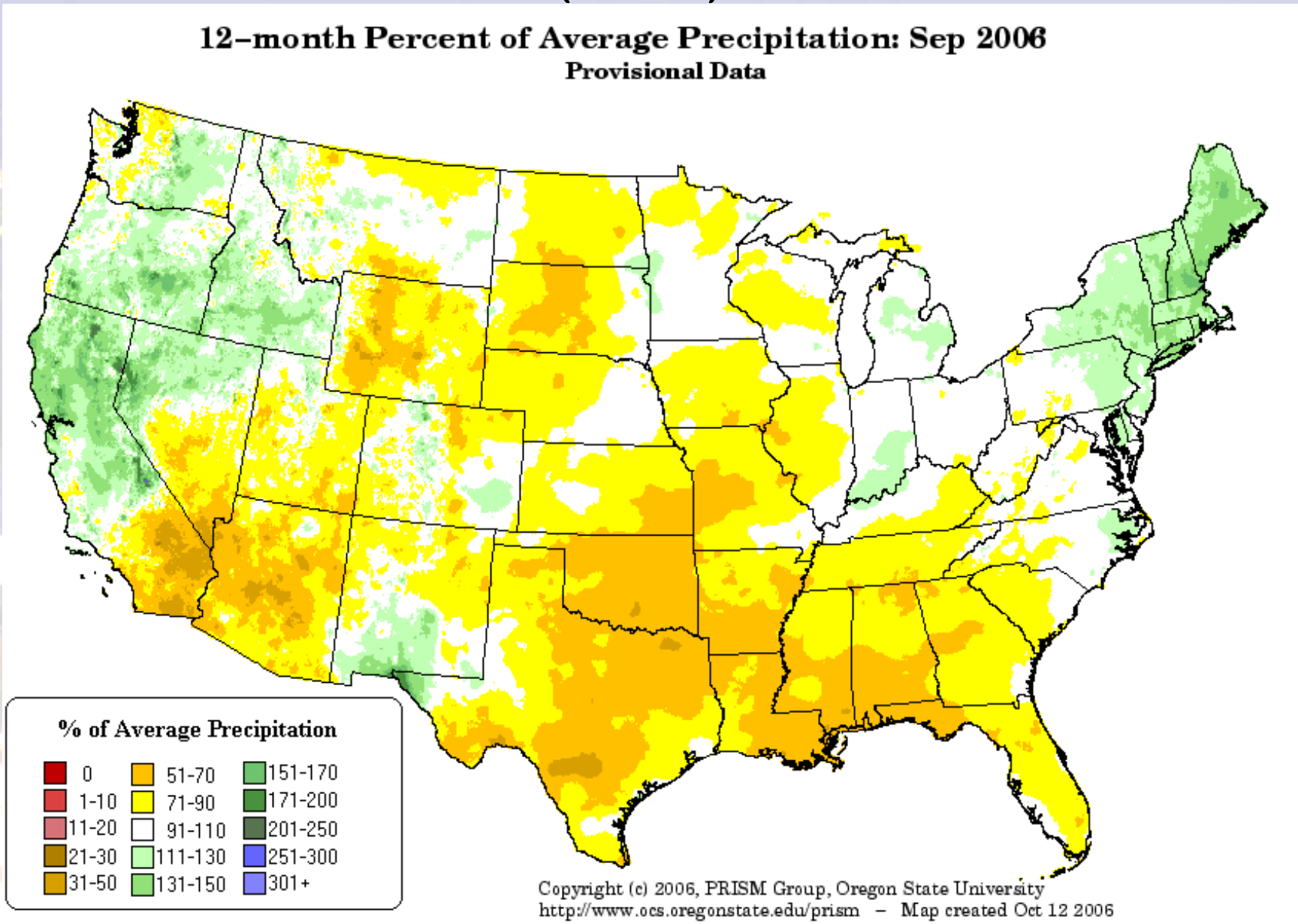
September 2006 precipitation as a percent of average (Prism)



Summer 2006 (May–Sep) precipitation as a percent of average (Prism)

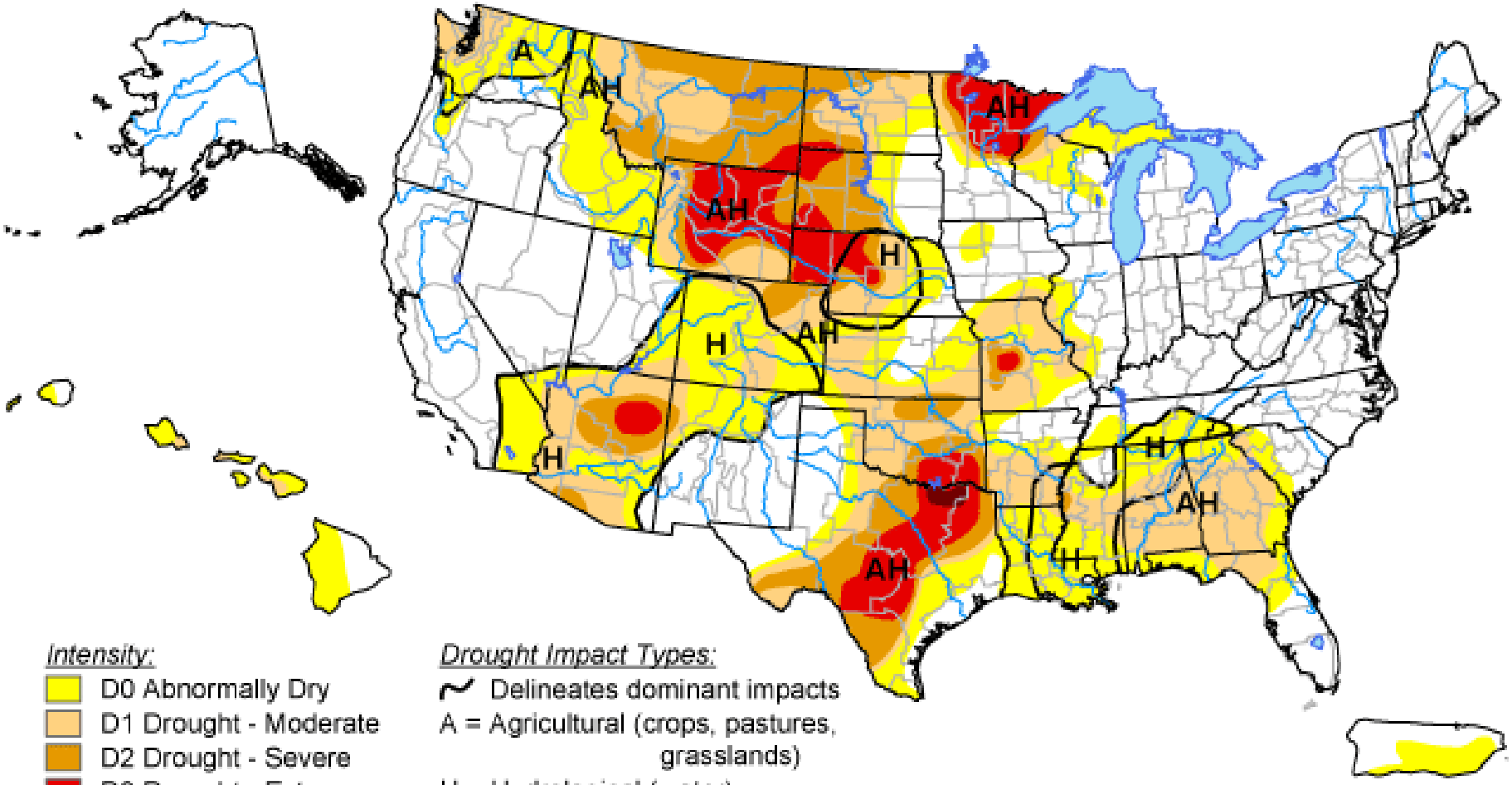


Water Year 2006 precipitation as a percent of average (Prism)



U.S. Drought Monitor

October 3, 2006
Valid 8 a.m. EDT



Intensity:
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Drought Impact Types:
- Delineates dominant impacts
- A = Agricultural (crops, pastures, grasslands)
- H = Hydrological (water)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

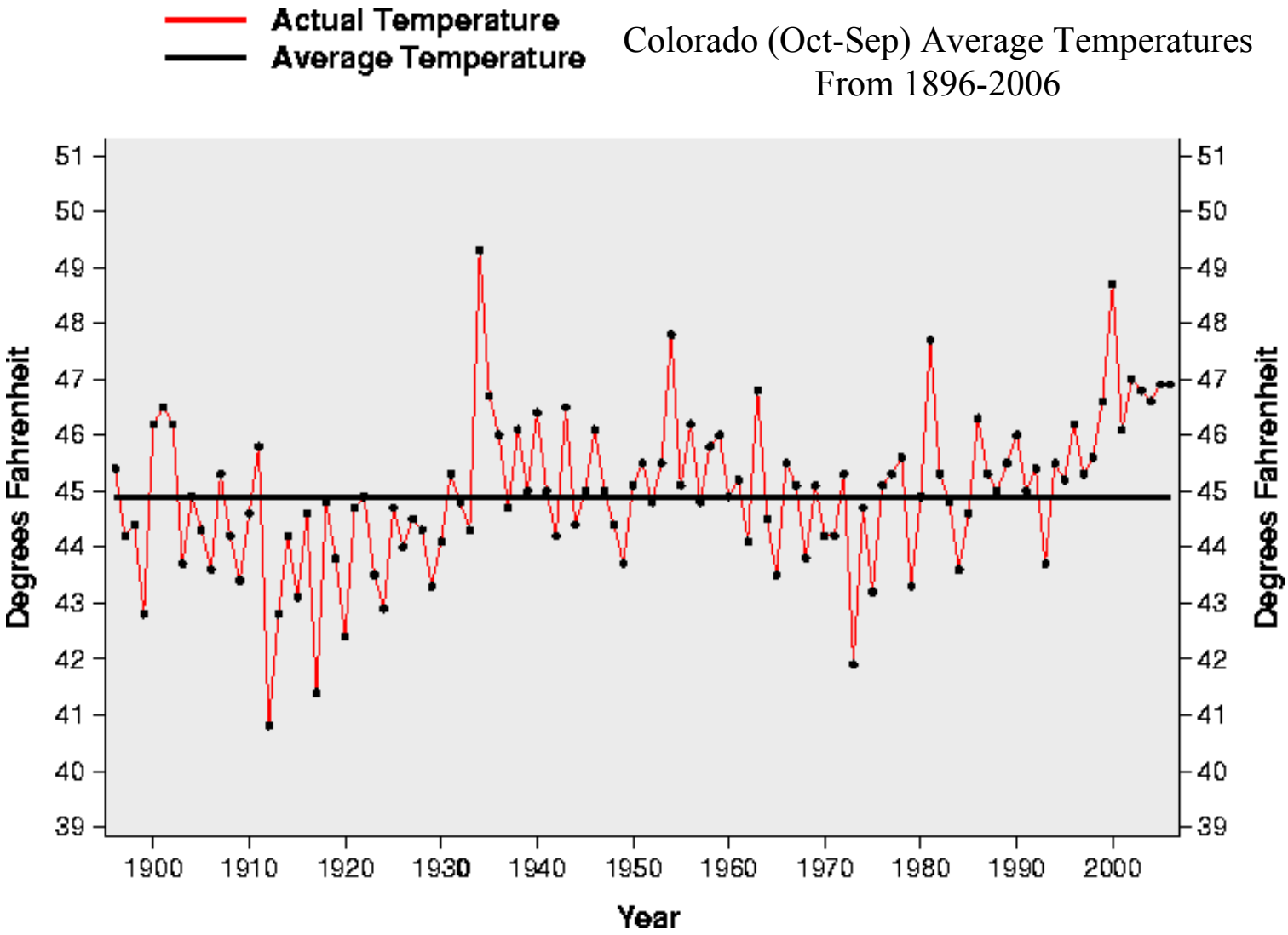
USDA National Drought Mitigation Center

Released Thursday, October 5, 2006

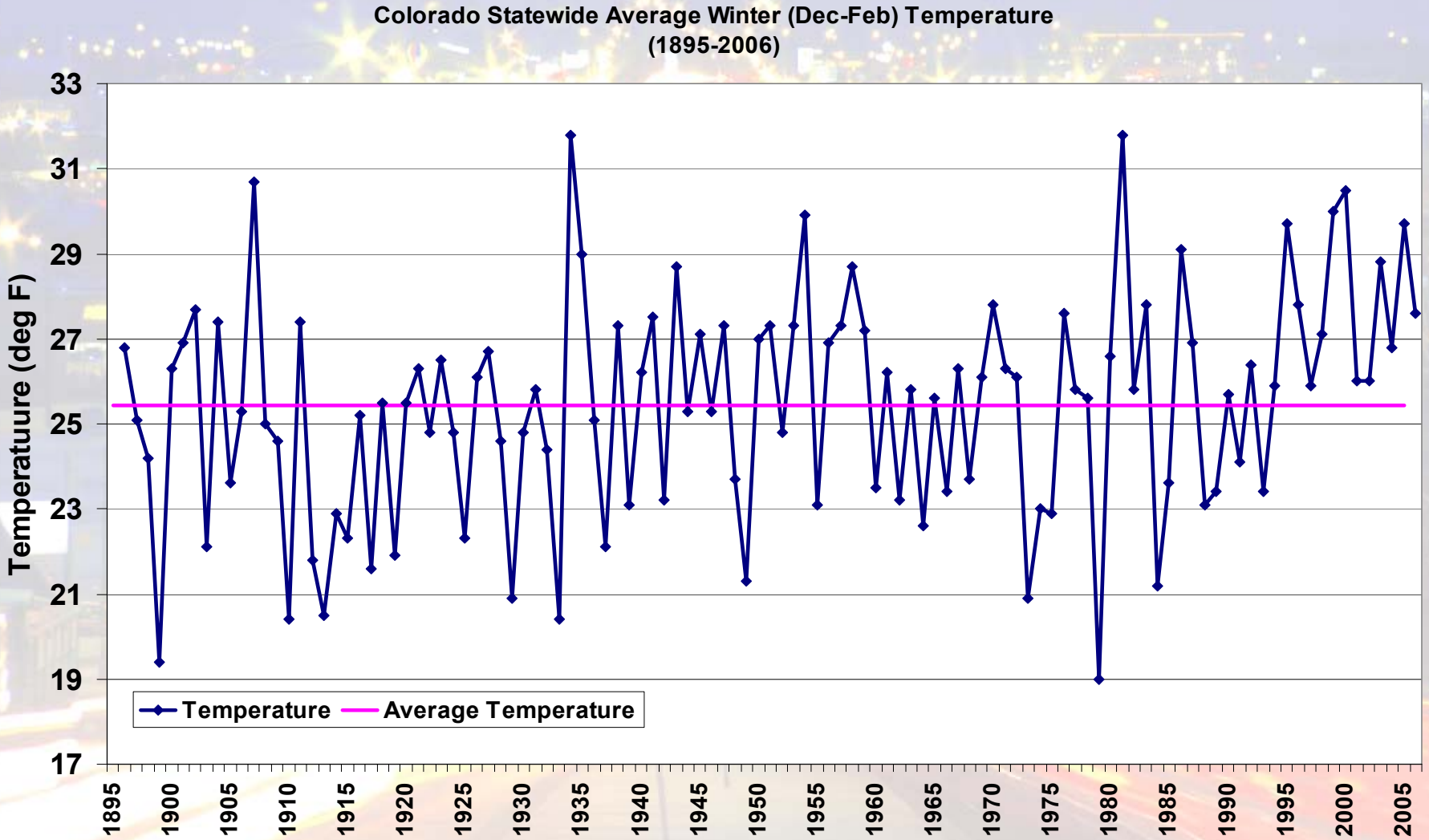
Author: Rich Tinker, Climate Prediction Center, NOAA

http://drought.unl.edu/dm

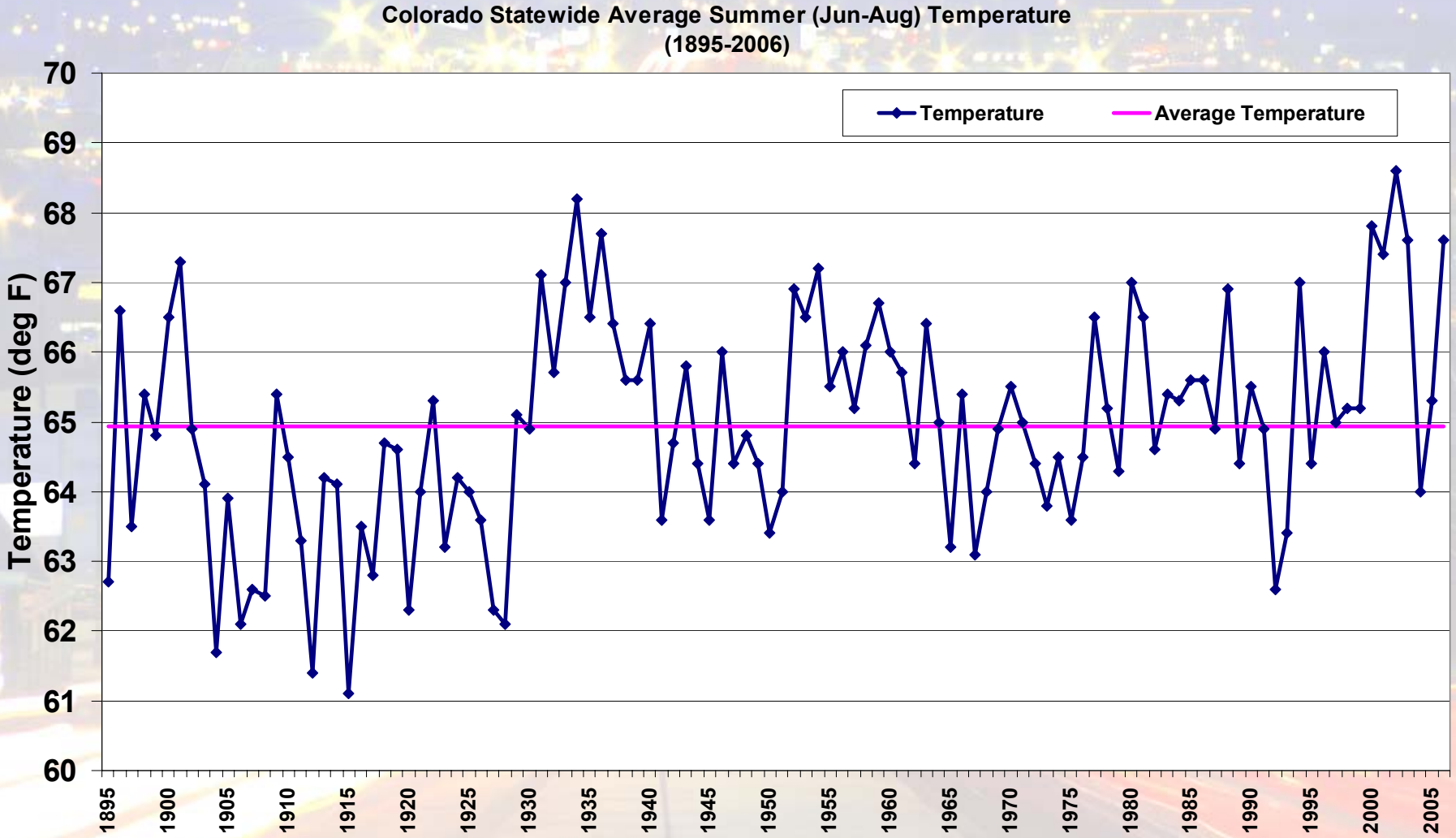
Overall, 2006 Water Year warmer than average again



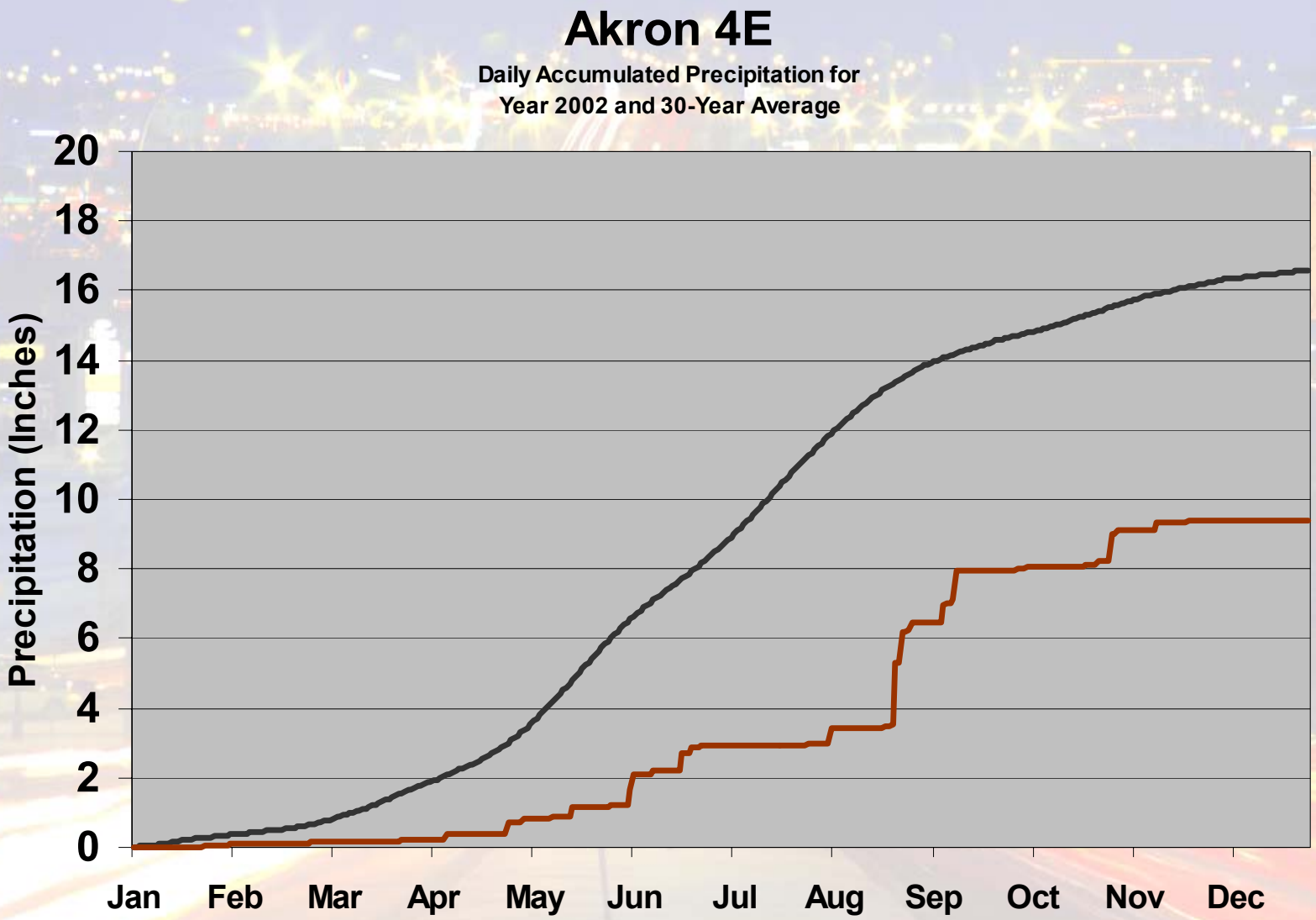
Colorado Winter Statewide Temperatures



Colorado Summer Statewide Temperatures



2002 Akron Daily Accumulated Precipitation compared to daily average



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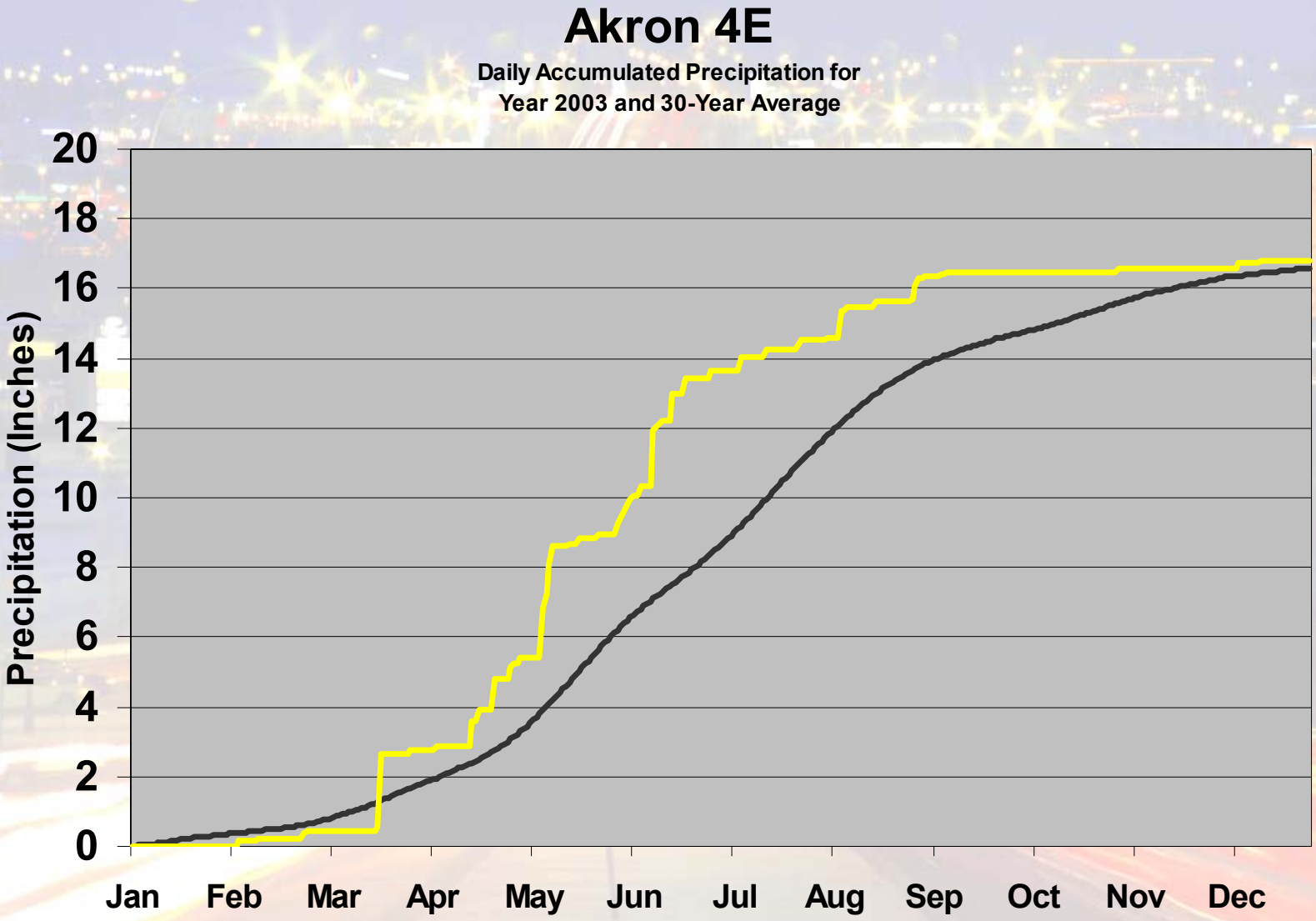
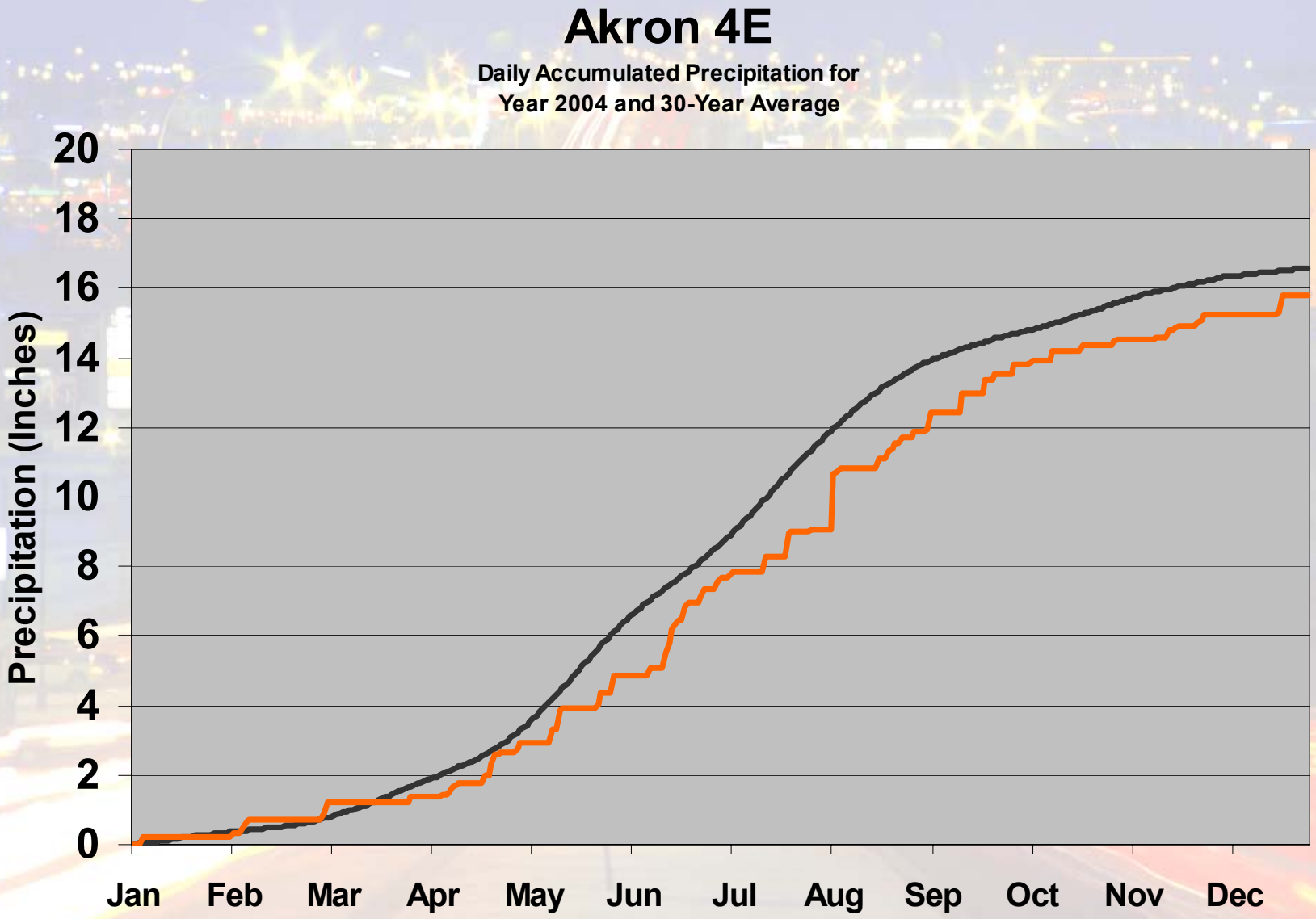
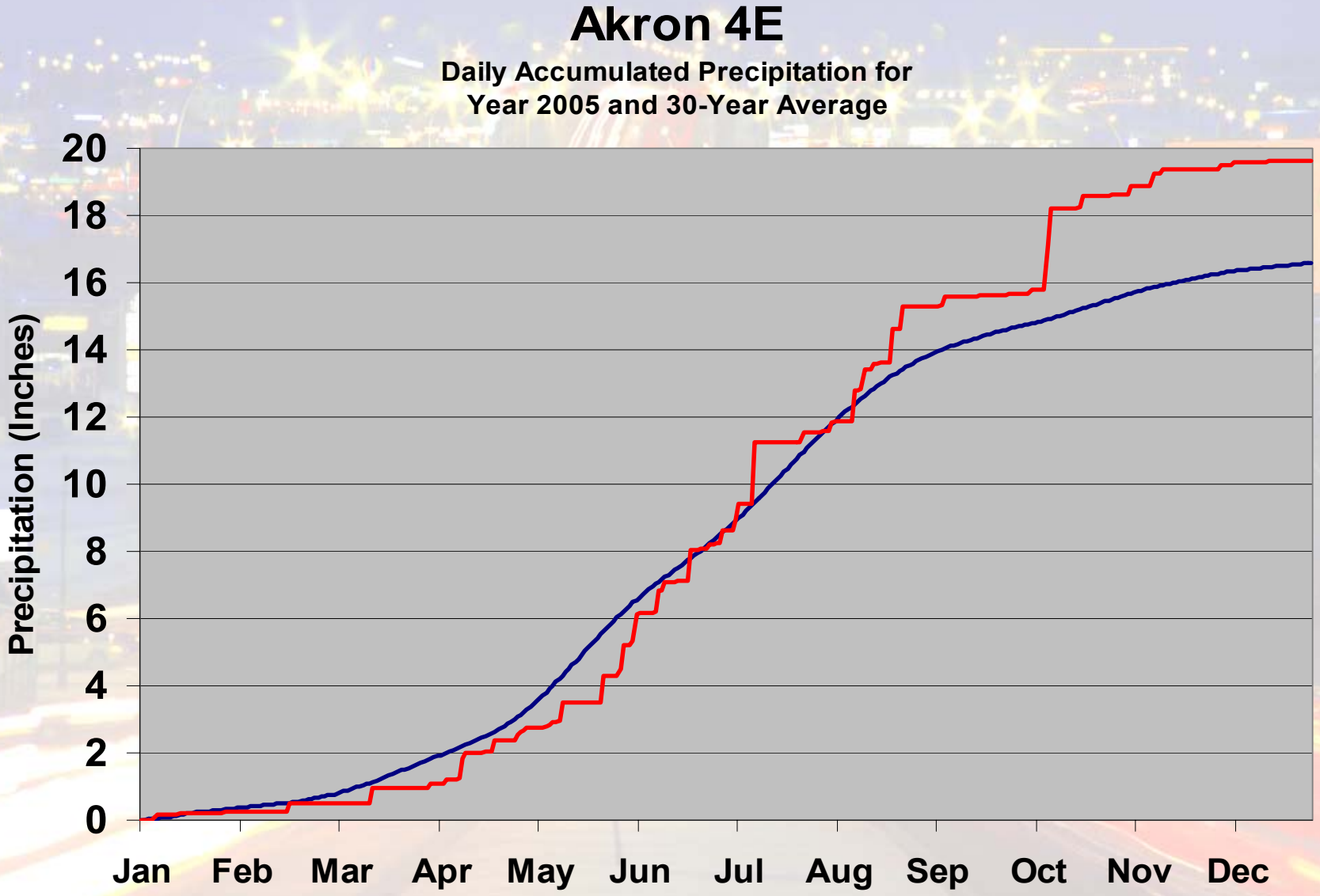


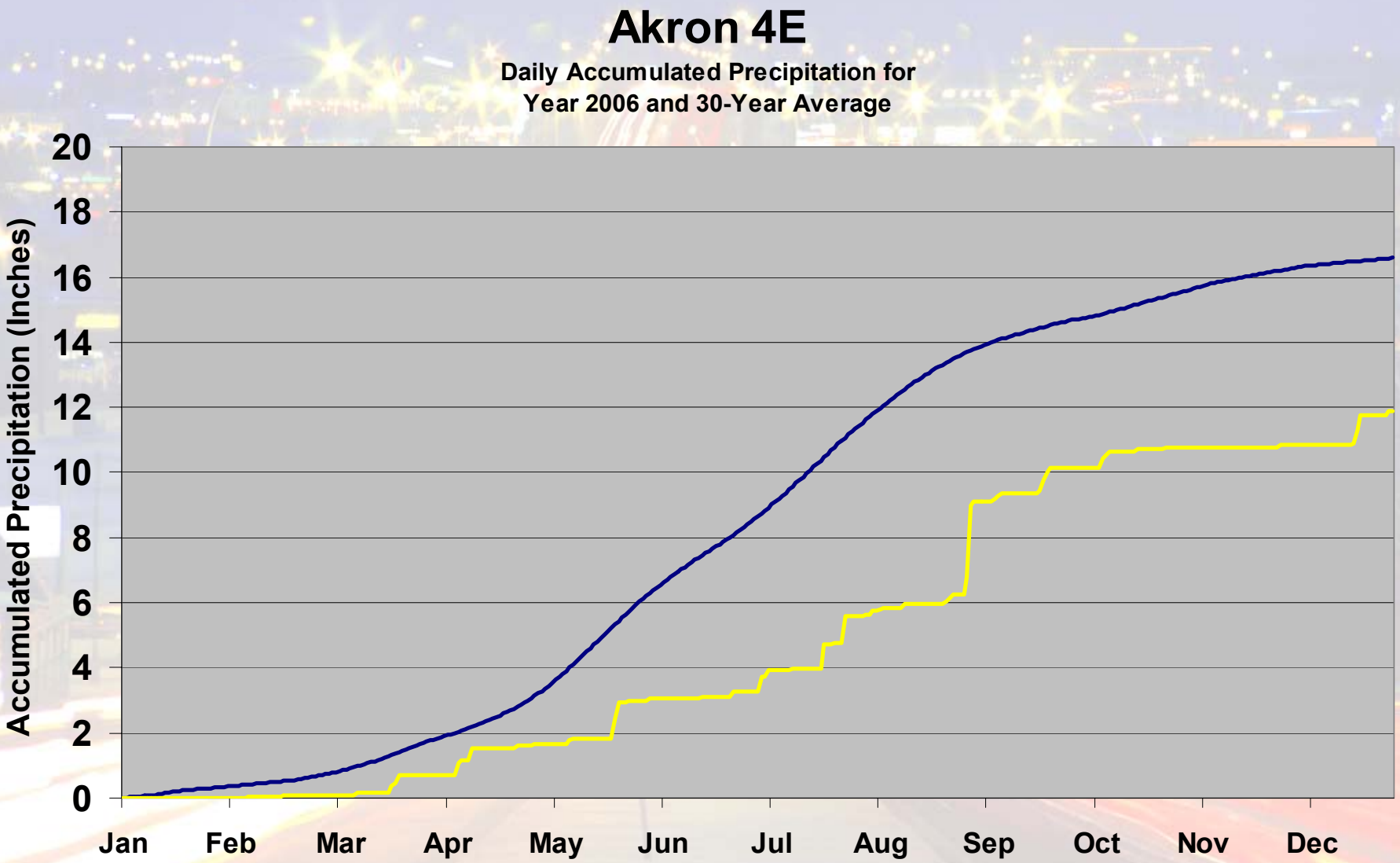
2004 Akron Daily Accumulated Precipitation compared to daily average



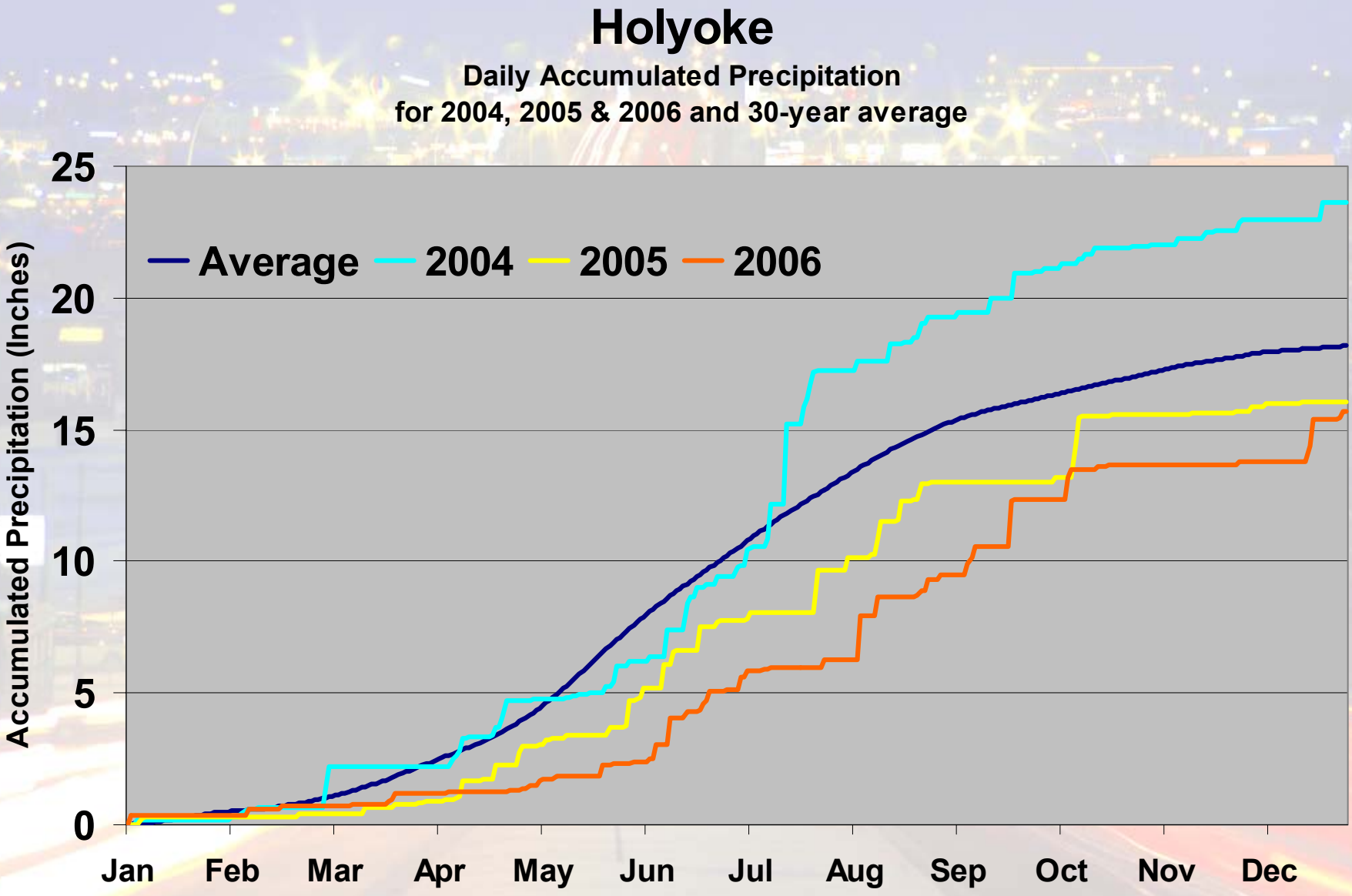
2005 Akron Daily Accumulated Precipitation compared to daily average



2006 Akron Daily Accumulated Precipitation compared to daily average



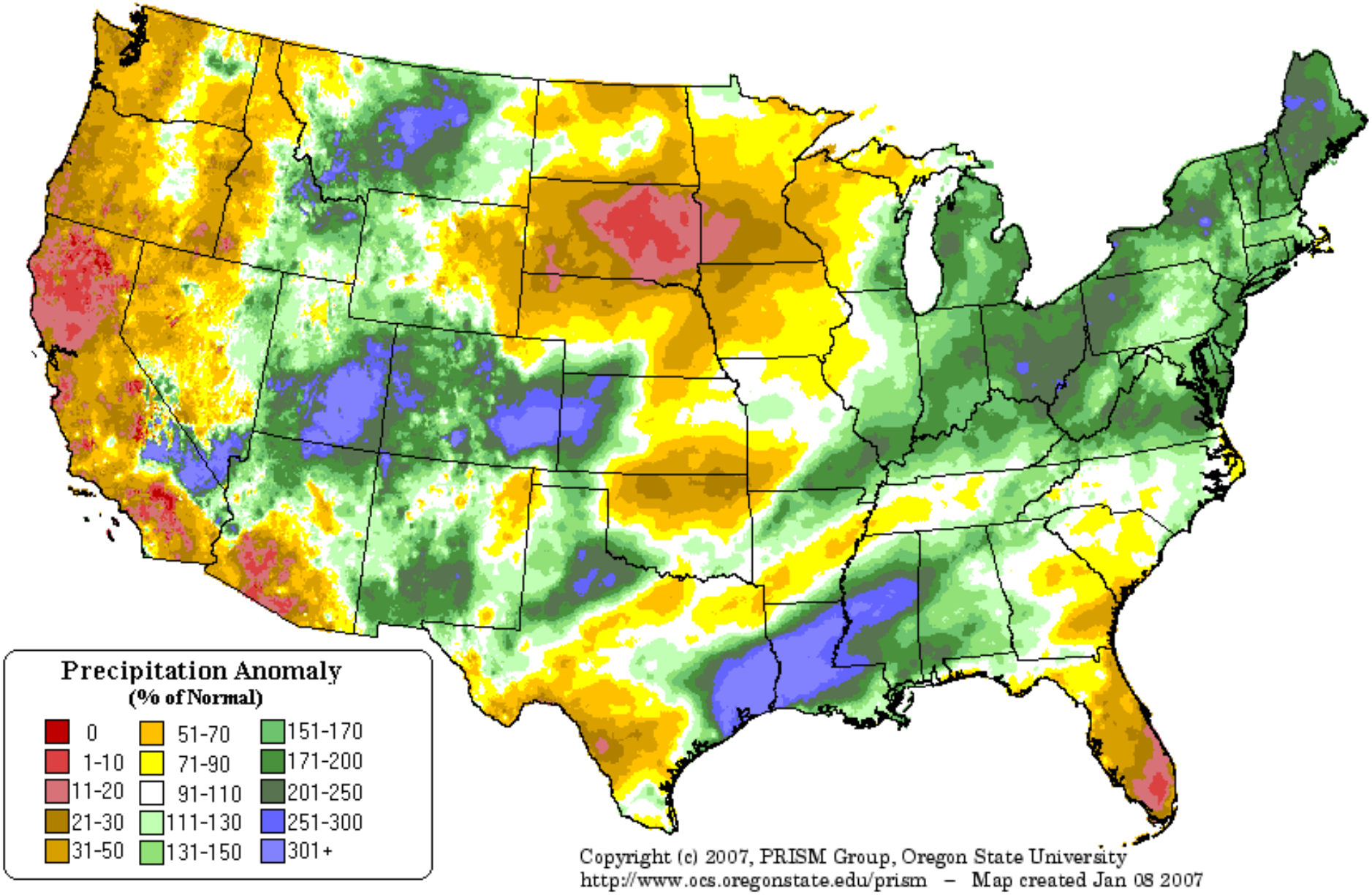
Holyoke 2004, 2005 & 2006 daily accumulated precipitation compared to daily average



Current Status

Precipitation Anomaly: Oct 2006

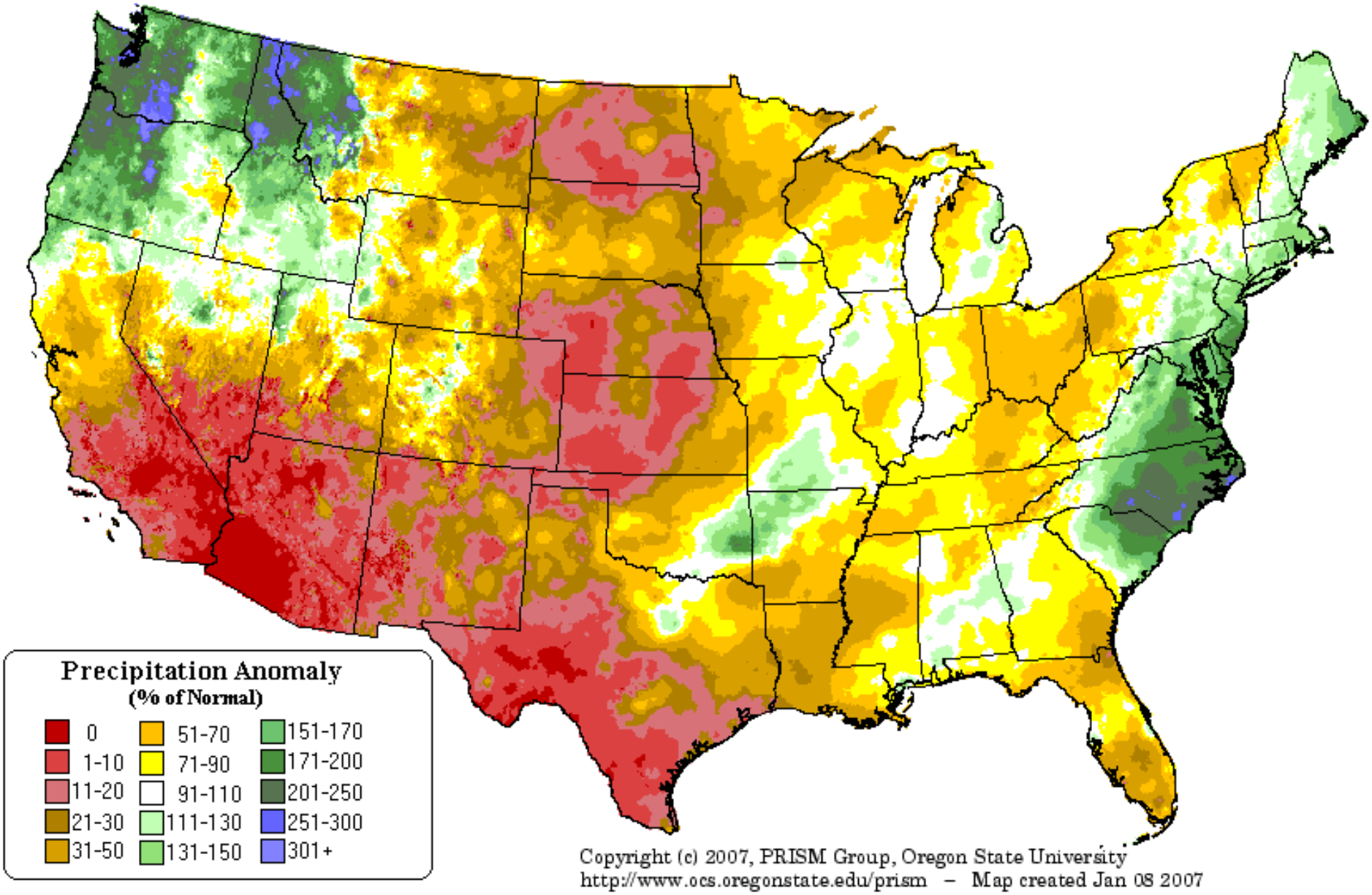
Provisional Data



http://www.ocs.oregonstate.edu/prism – Map created Jan 08 2007

Precipitation Anomaly: Nov 2006

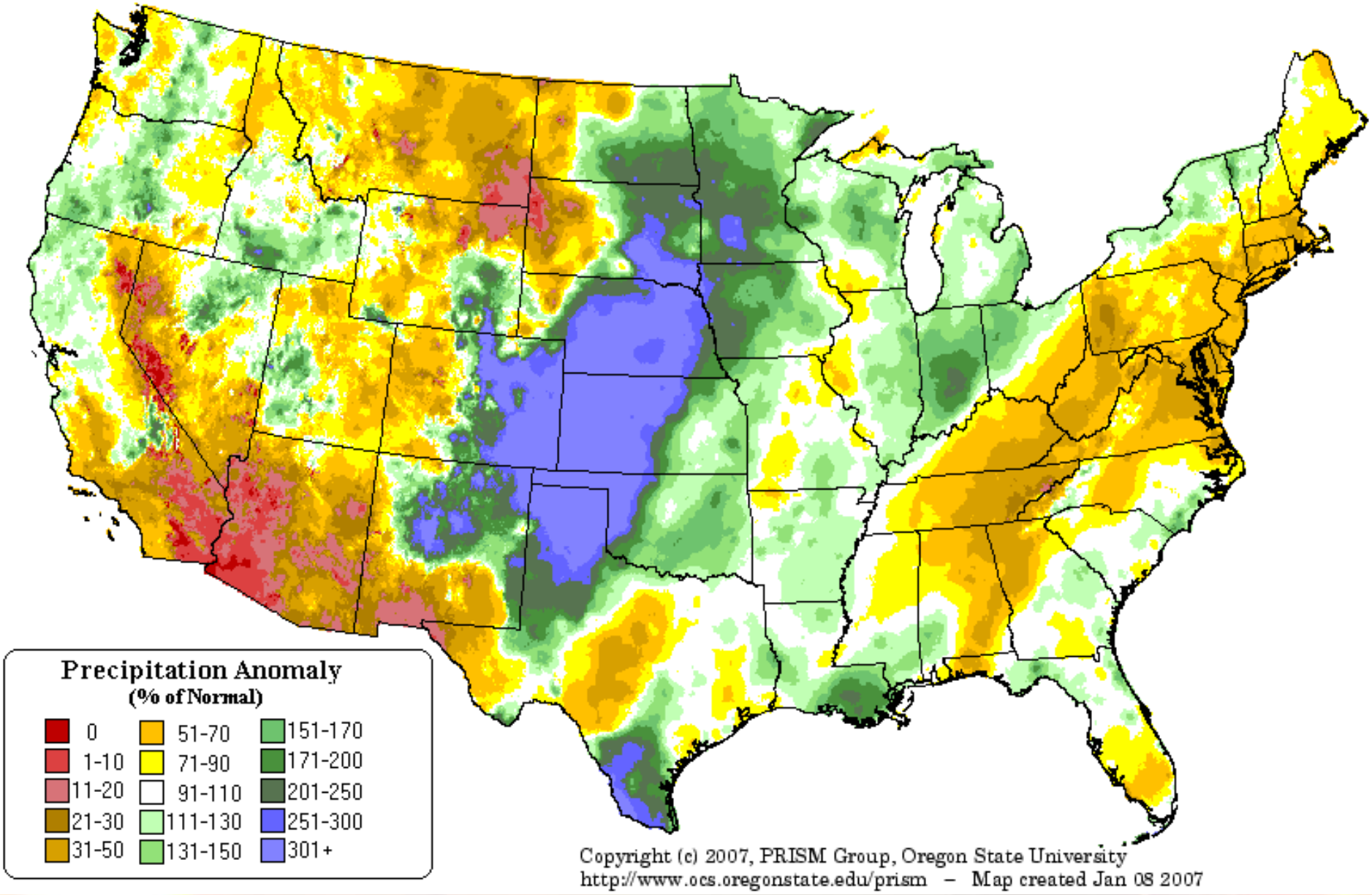
Provisional Data



http://www.ocs.oregonstate.edu/prism – Map created Jan 08 2007

Precipitation Anomaly: Dec 2006

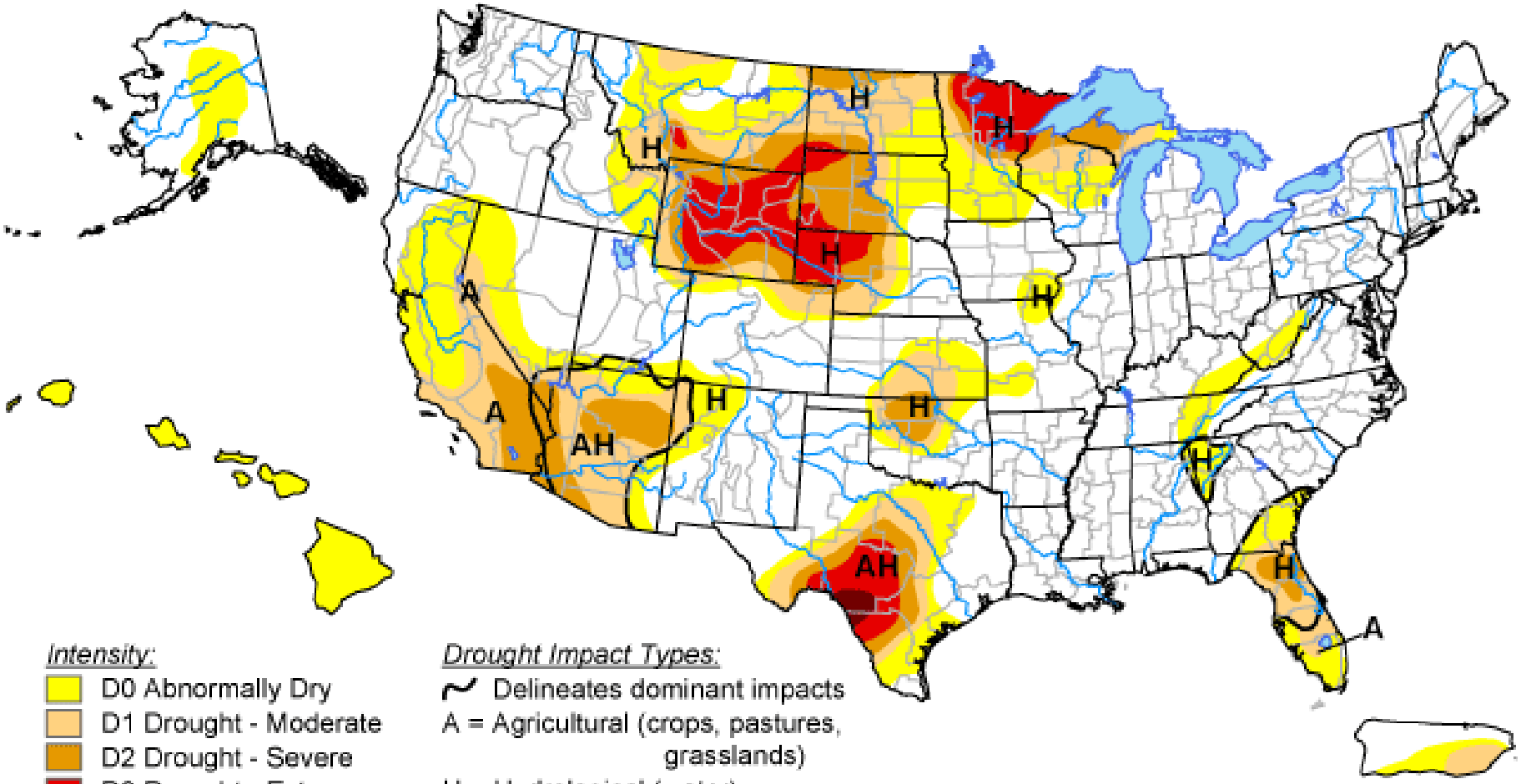
Provisional Data



http://www.ocs.oregonstate.edu/prism – Map created Jan 08 2007

U.S. Drought Monitor

January 23, 2007
Valid 7 a.m. EST



Intensity:
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Drought Impact Types:
- Delineates dominant impacts
- A = Agricultural (crops, pastures, grasslands)
- H = Hydrological (water)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

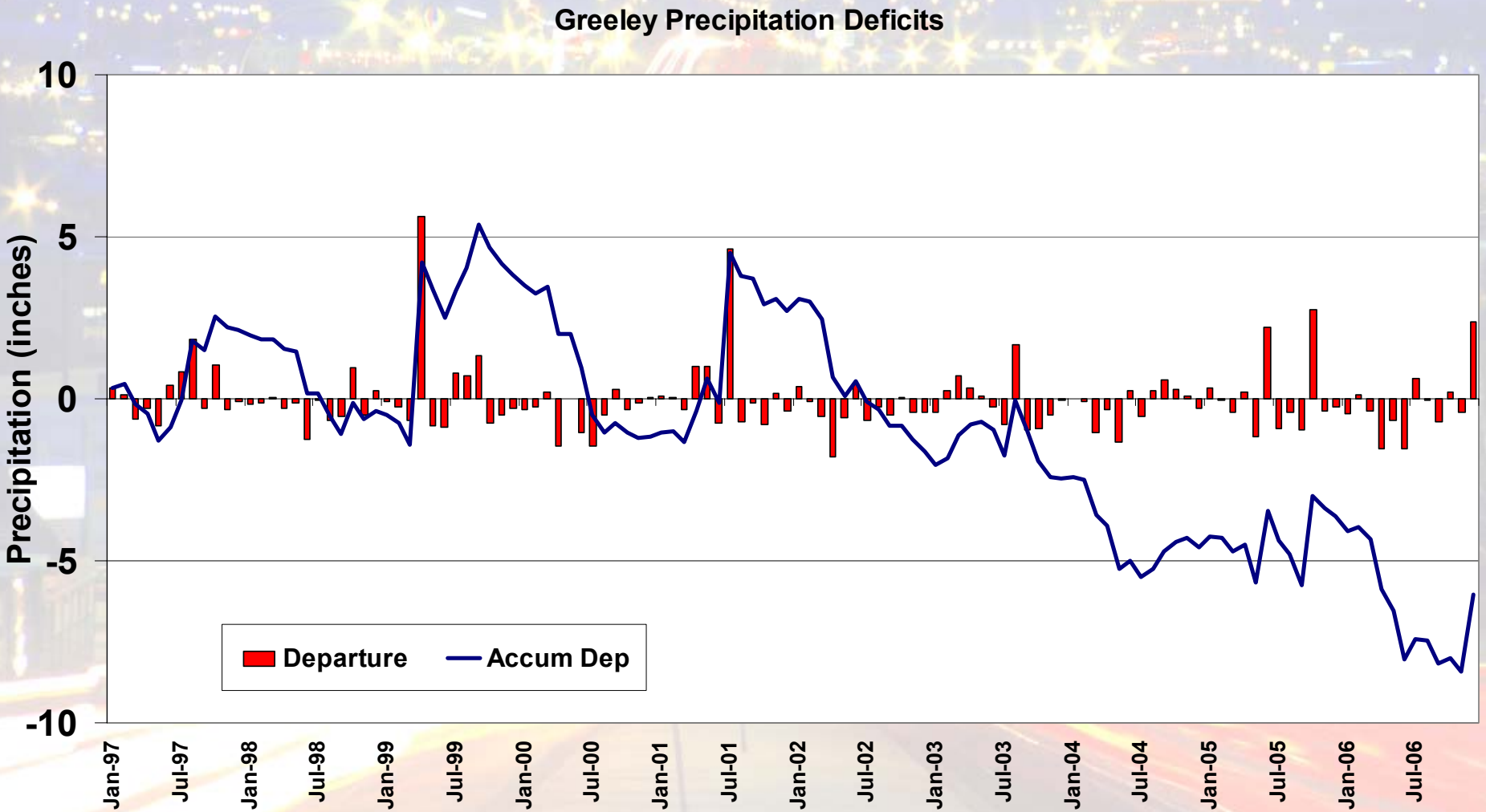
USDA National Drought Mitigation Center

Released Thursday, January 25, 2007

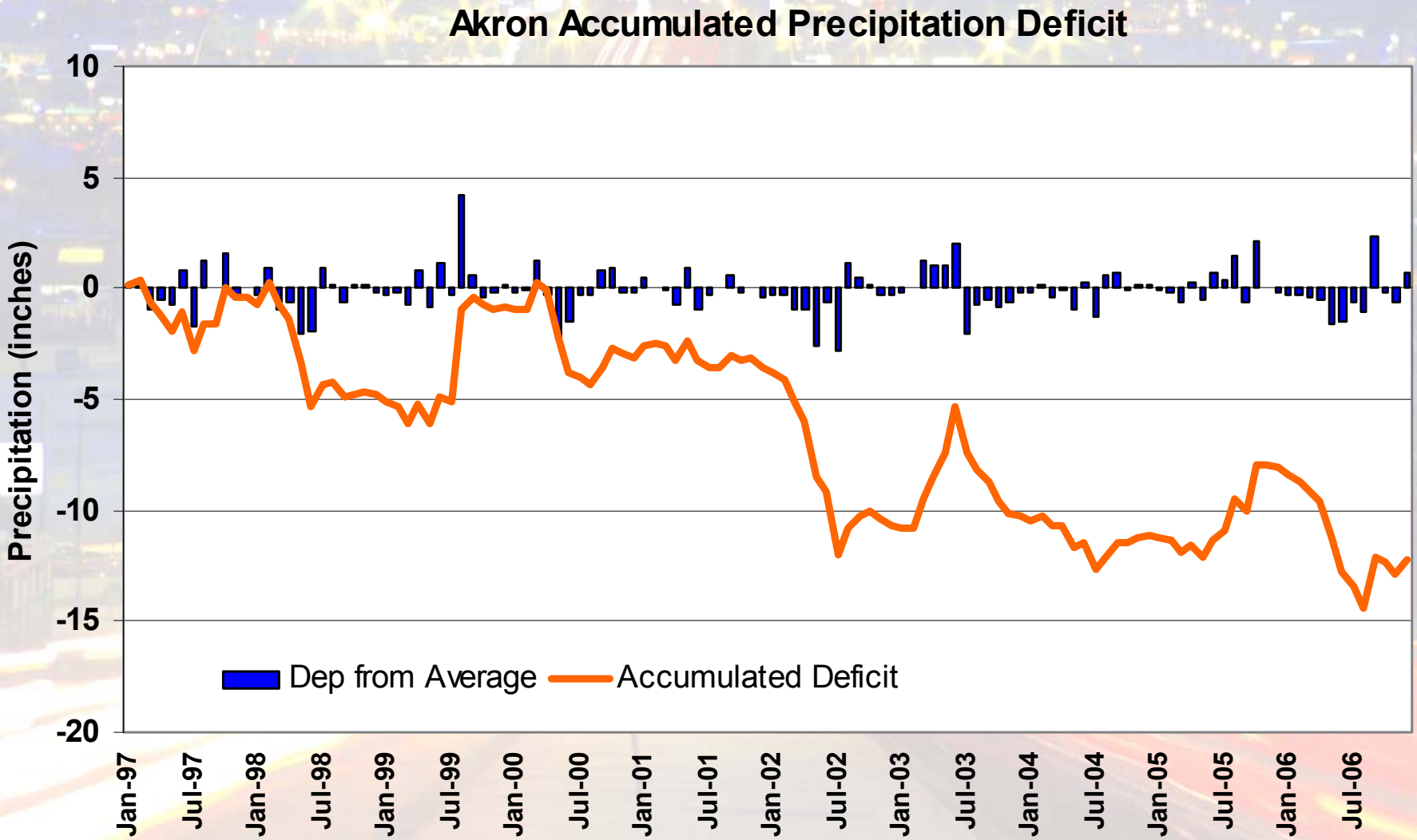
Author: David Miskus, JAWF/CPC/NOAA

http://drought.unl.edu/dm

Greeley Monthly Precipitation Departures from Average



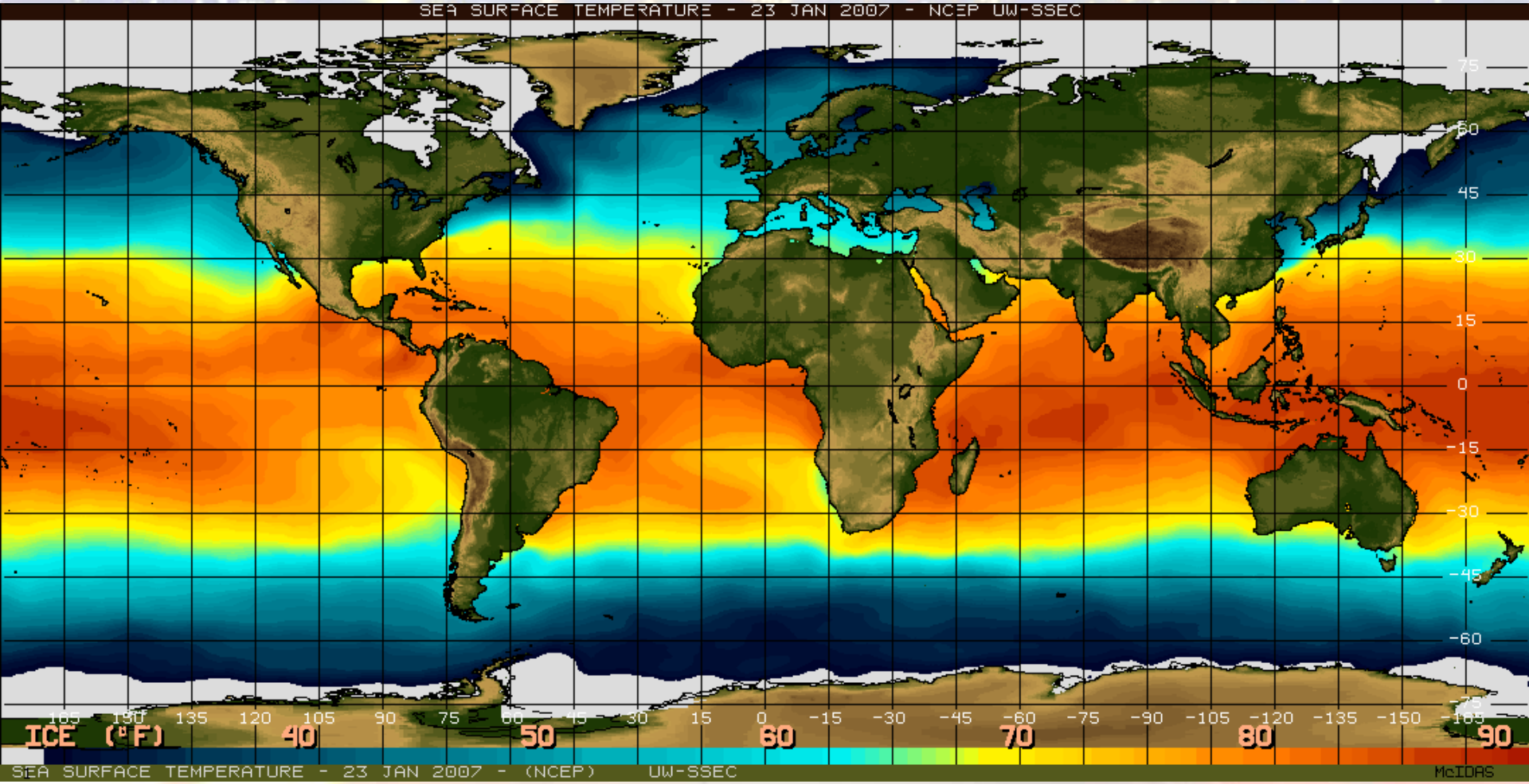
Akron Monthly Precipitation Departures from Average



Great!
So Now What?

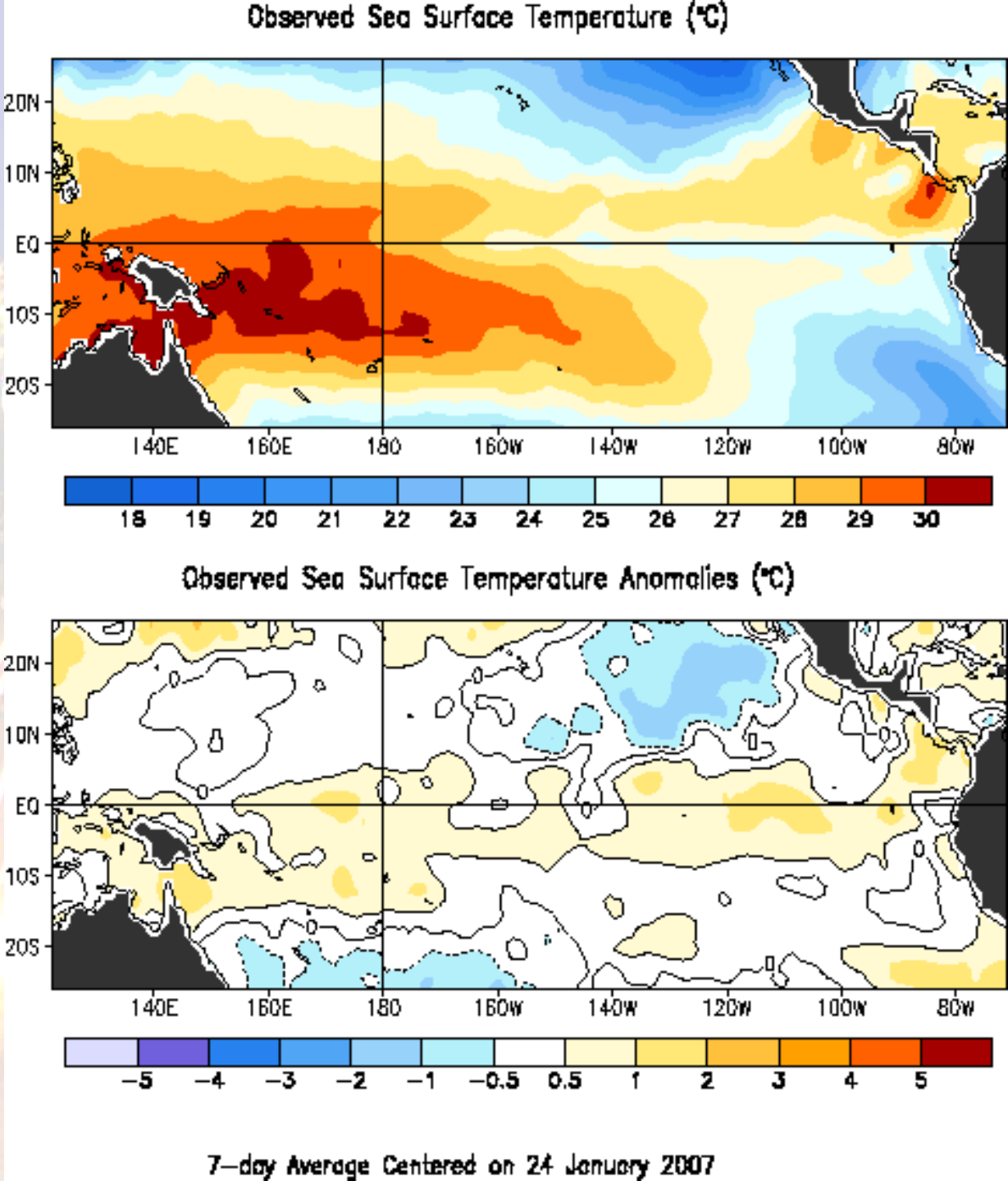
Photo by M. Wallace, CoCoRaHS observer

Sea Surface Temperature (SST)

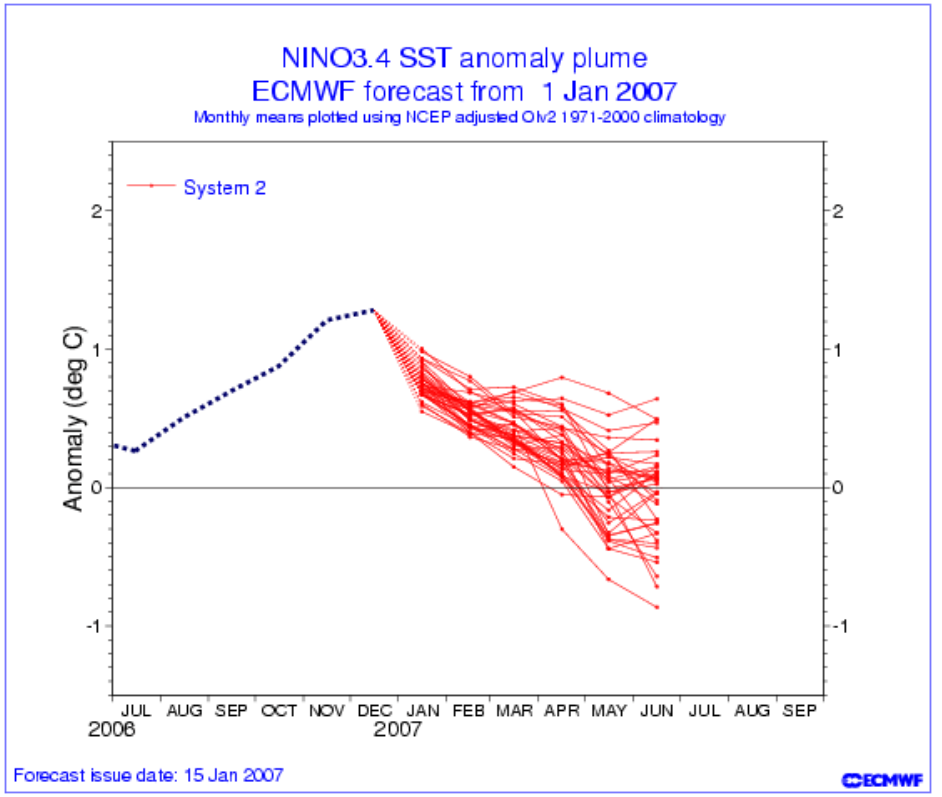


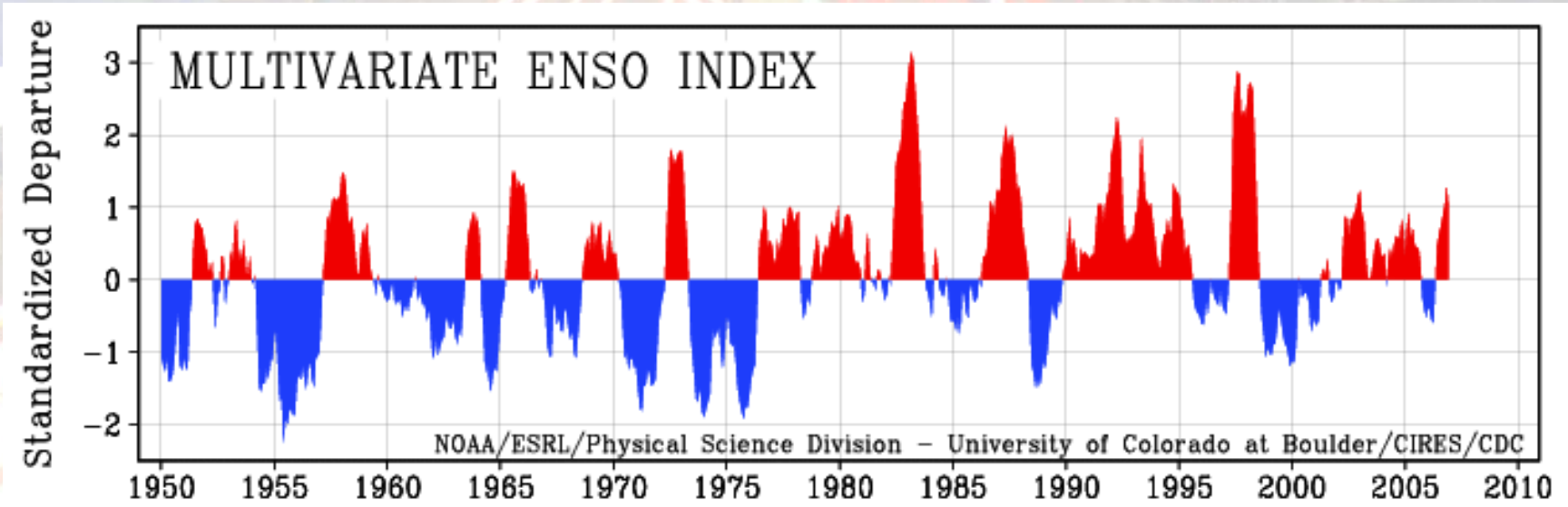
http://www.ssec.wisc.edu/data/sst.html

Sea Surface Temperature (SST) Departure from Average

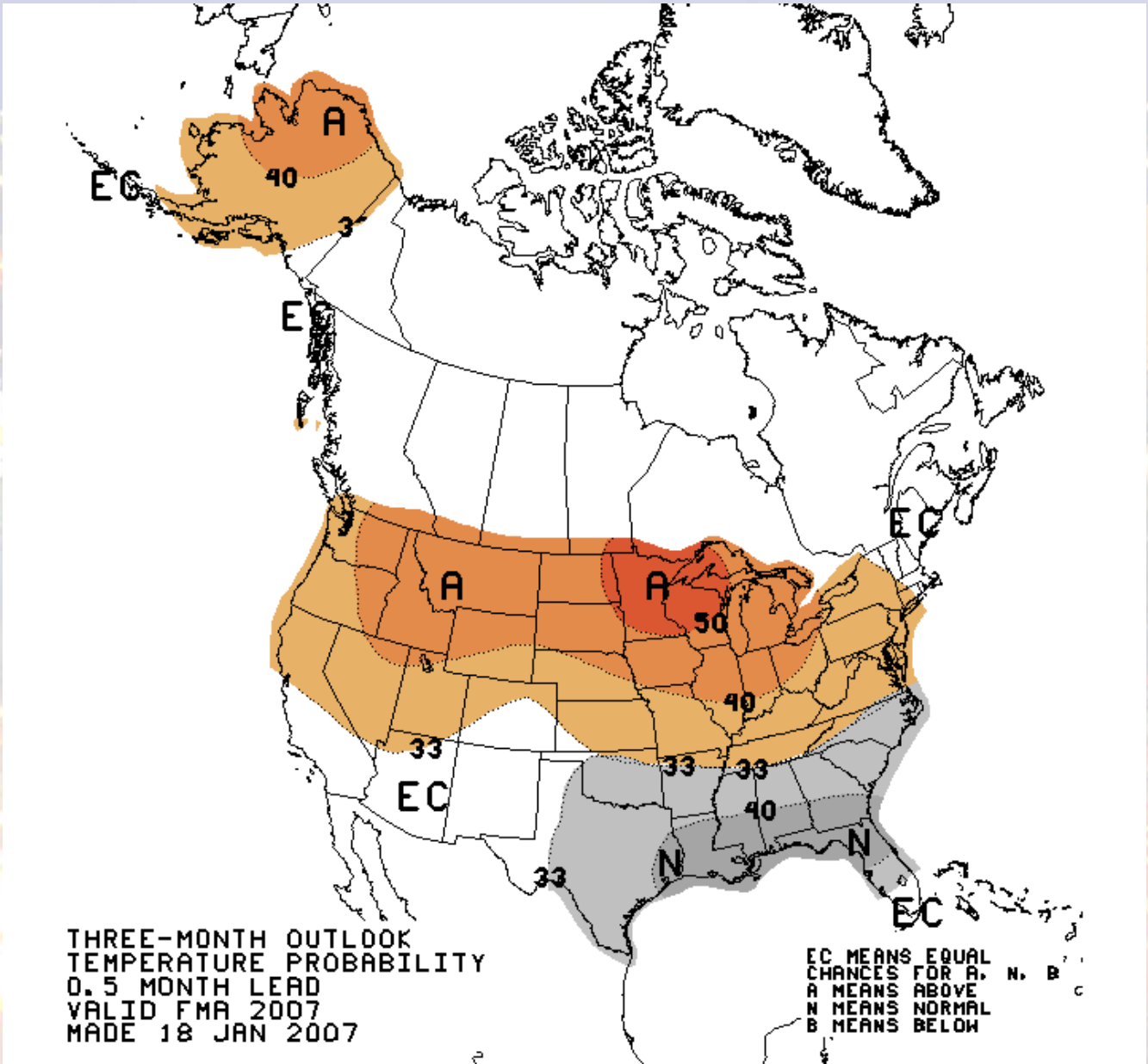


El Nino Status and Projections

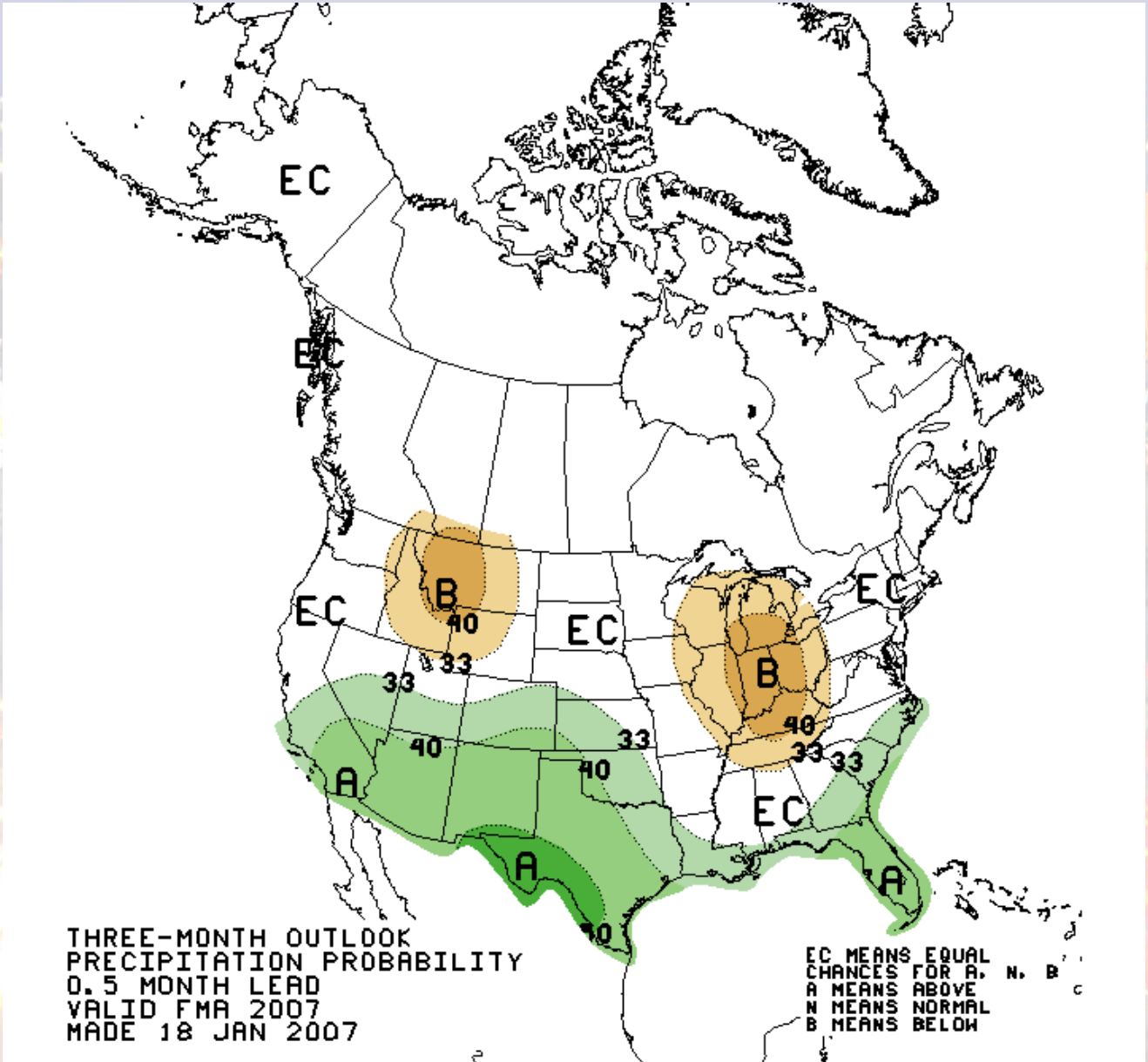




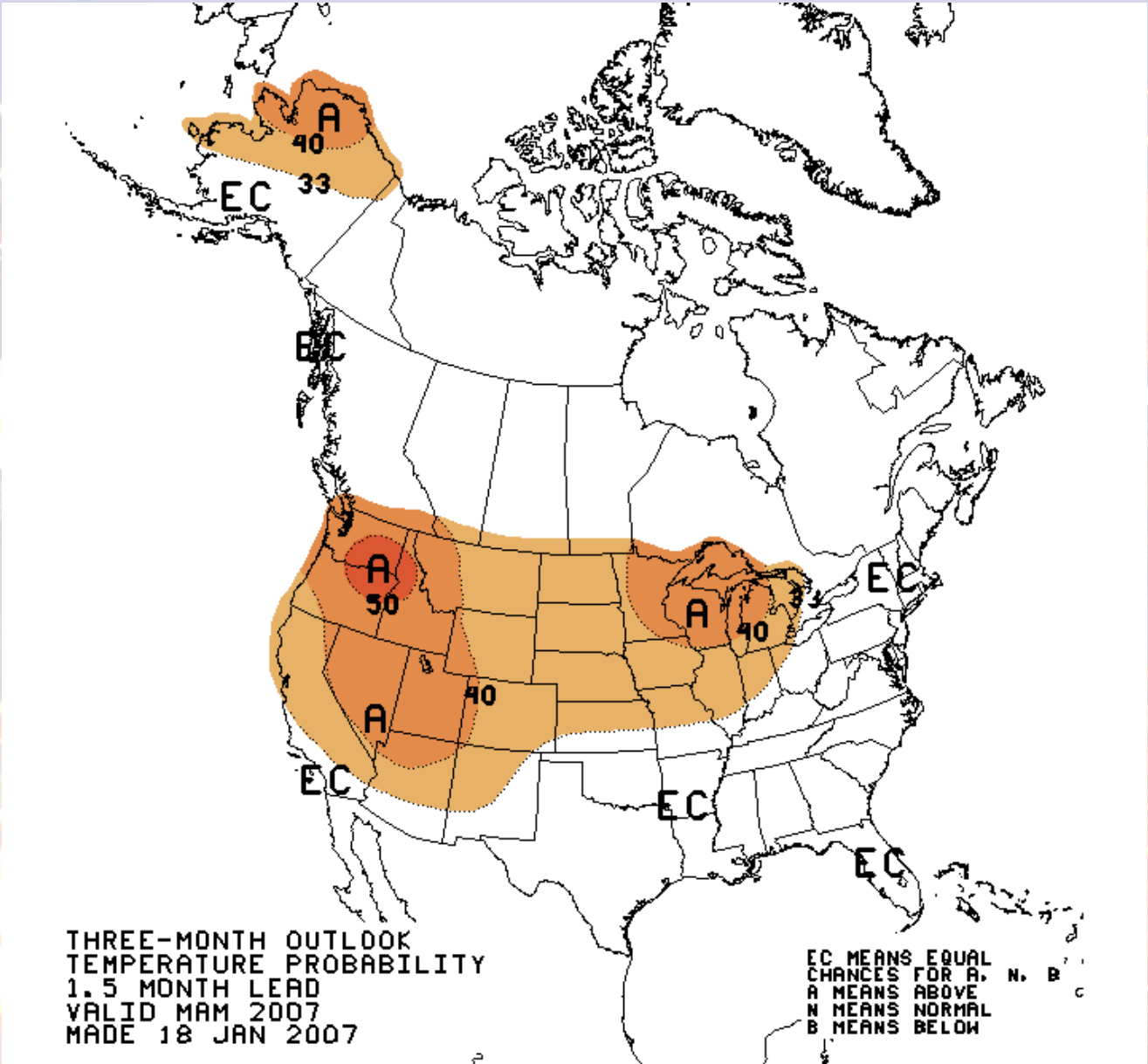
Feb-Apr Temperature



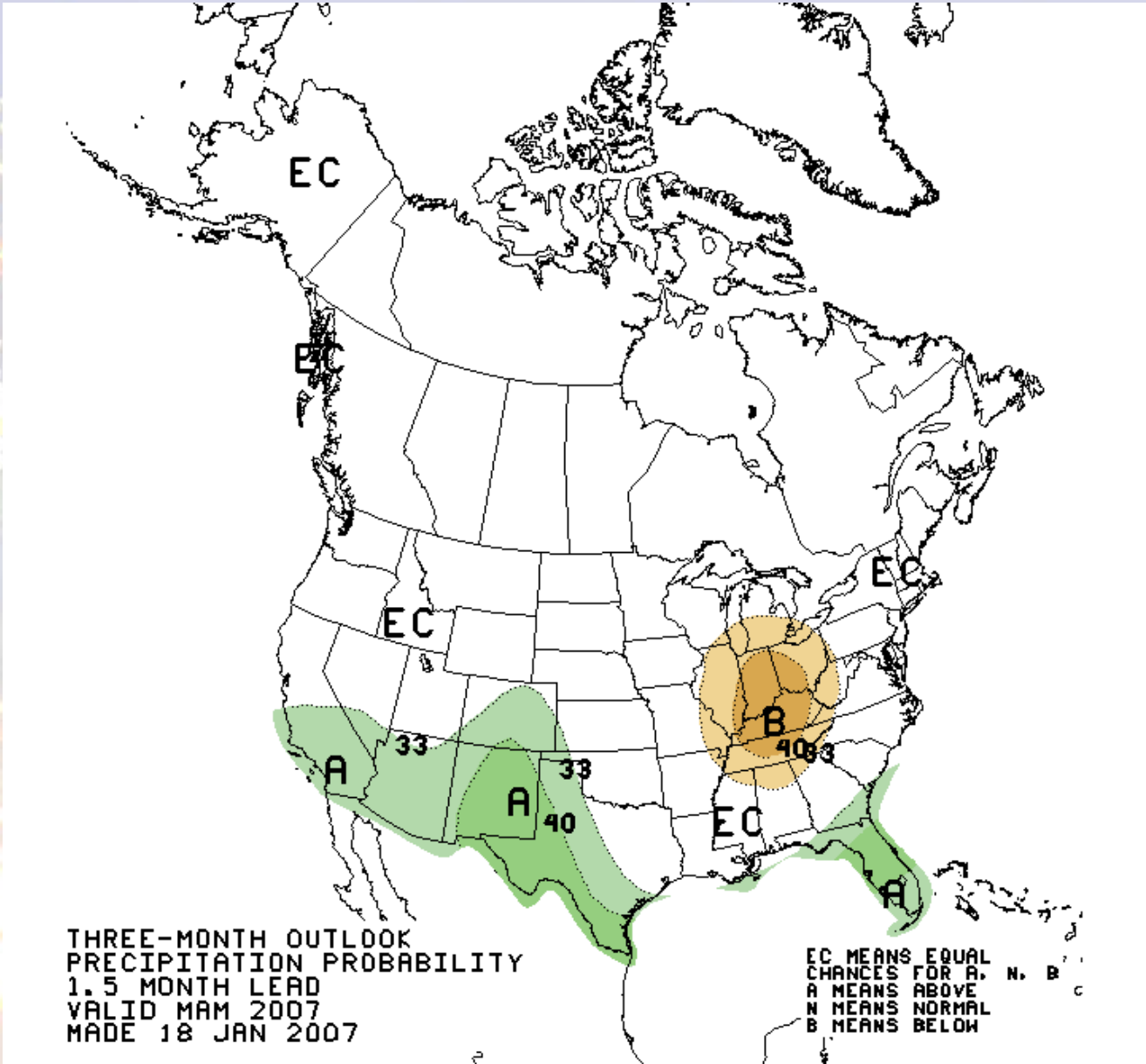
Feb-Apr Precipitation



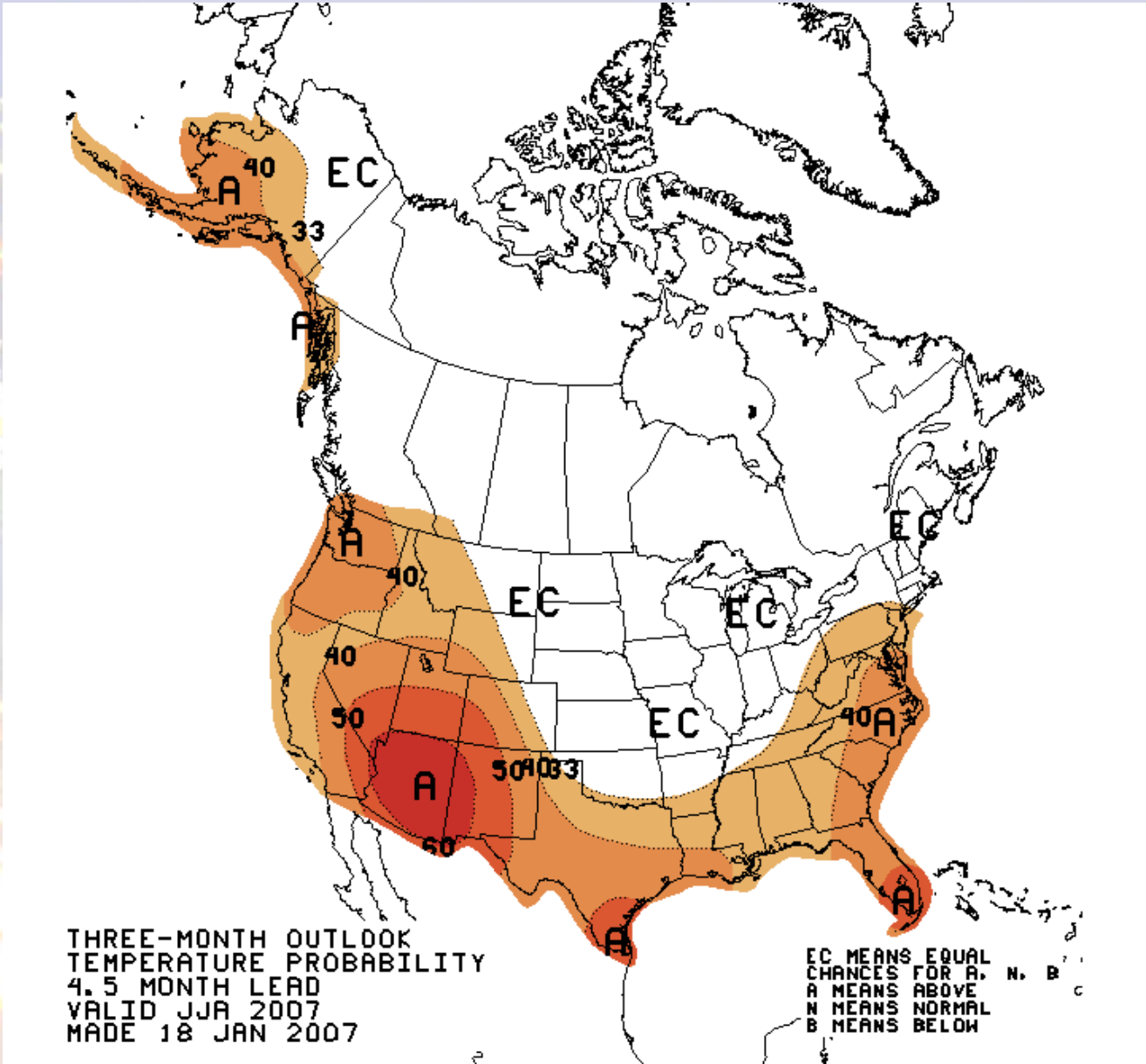
Mar-May Temperature



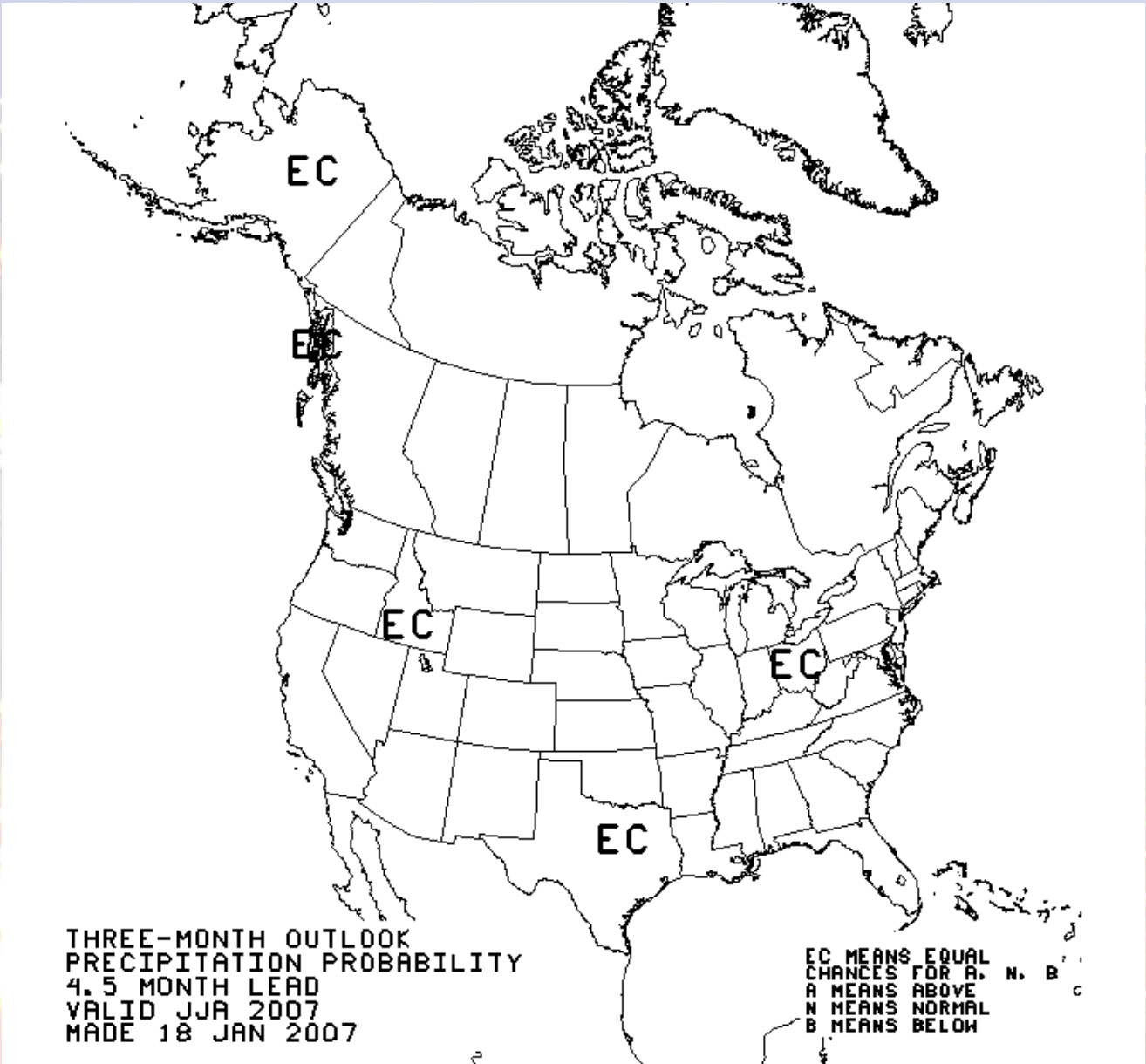
Mar-May Precipitation

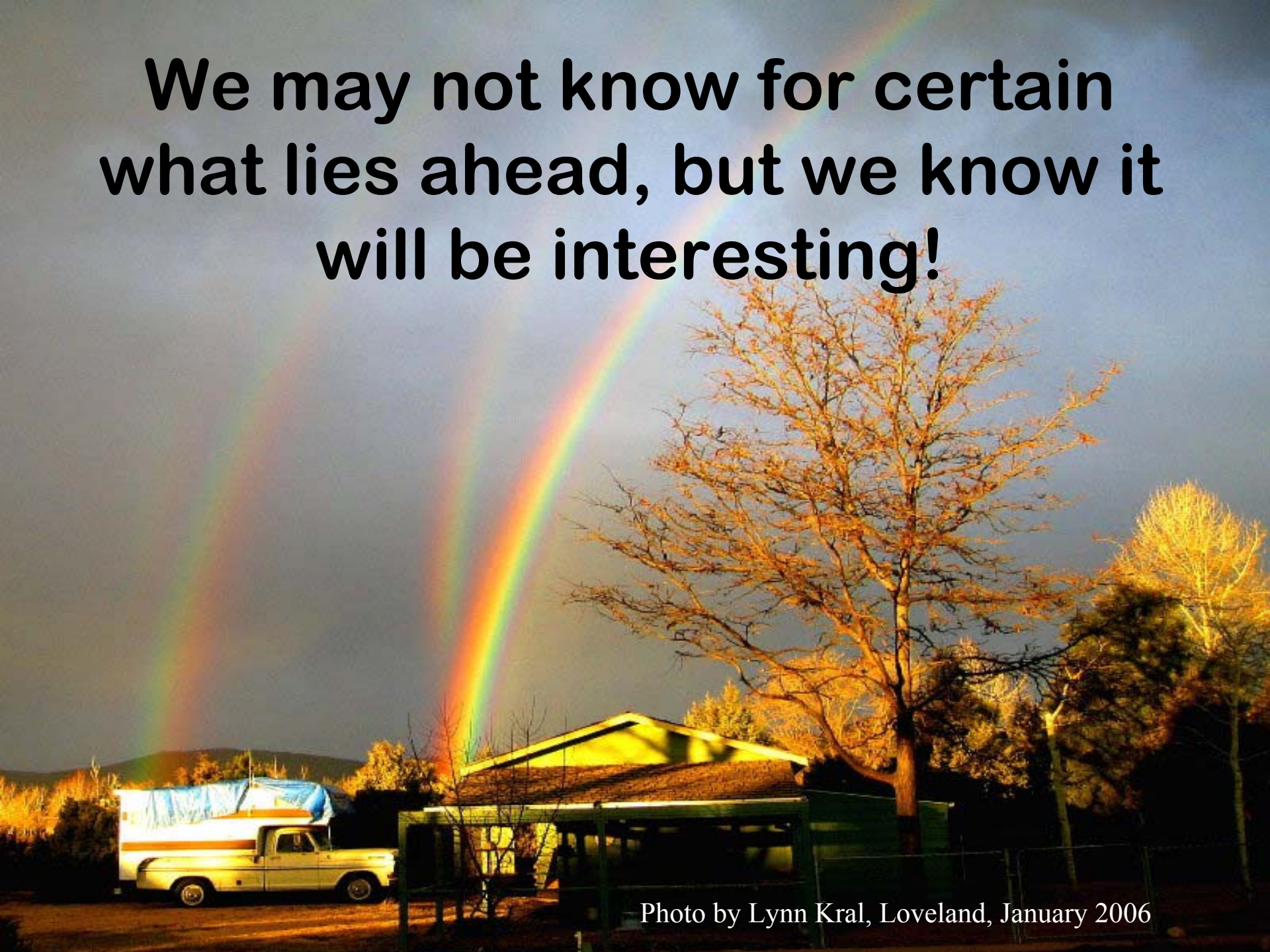


Jun-Aug Temperatures



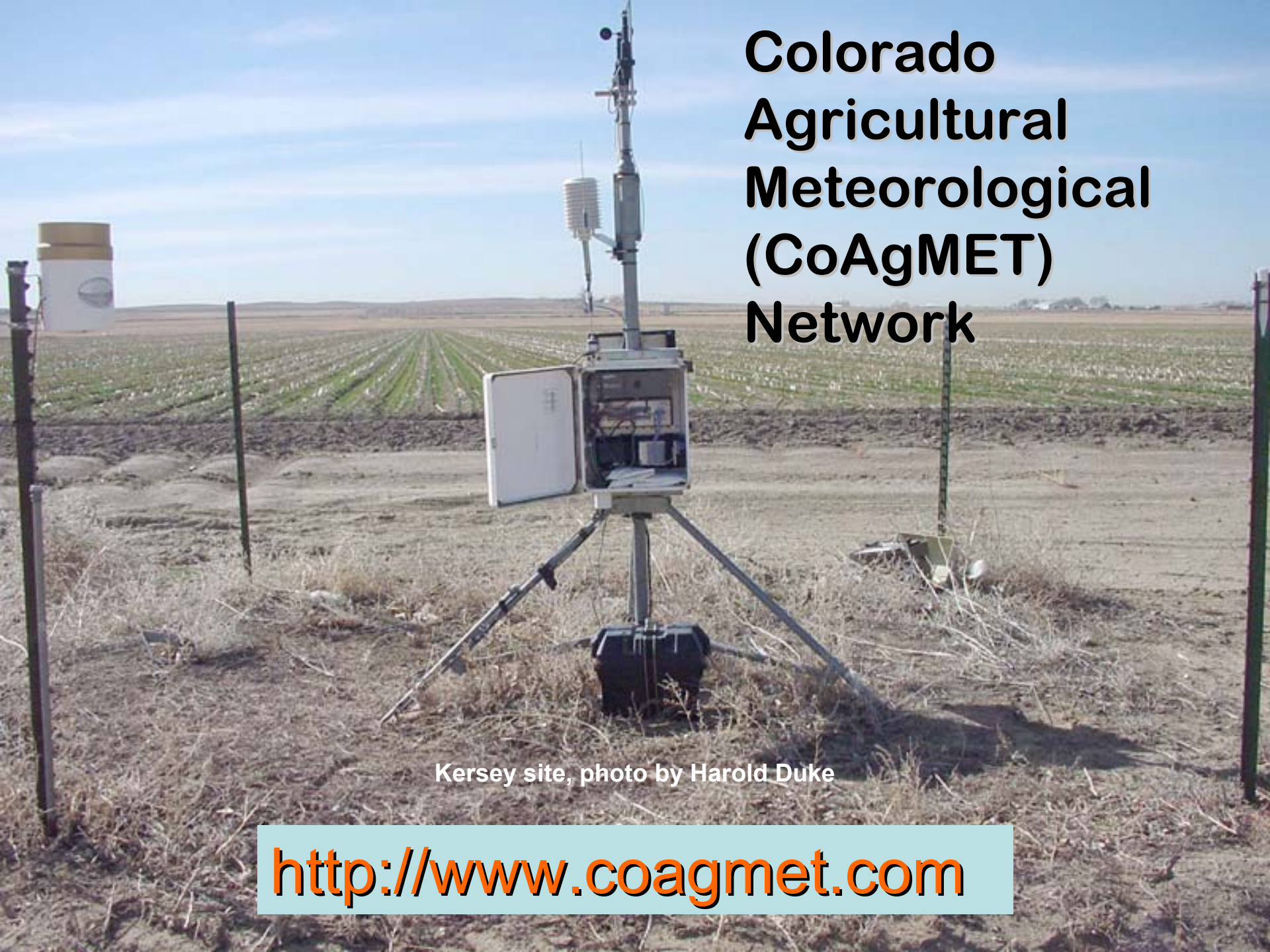
Jun-Aug Precipitation




We may not know for certain what lies ahead, but we know it will be interesting!
Photo by Lynn Kral, Loveland, January 2006

Some data sources you may be interested in

Photo by Wendy Ryan

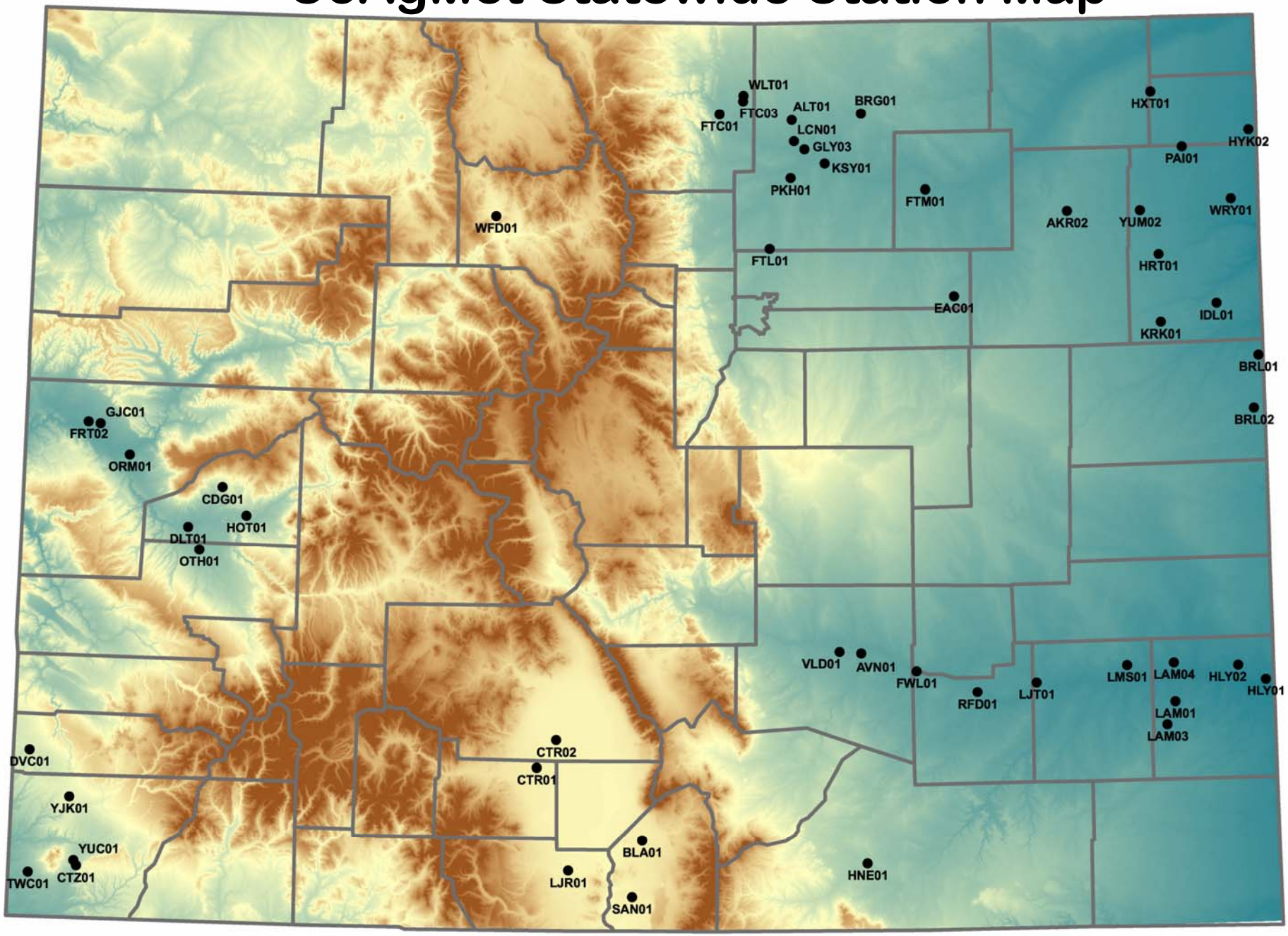


Colorado Agricultural Meteorological (CoAgMET) Network

Kersey site, photo by Harold Duke

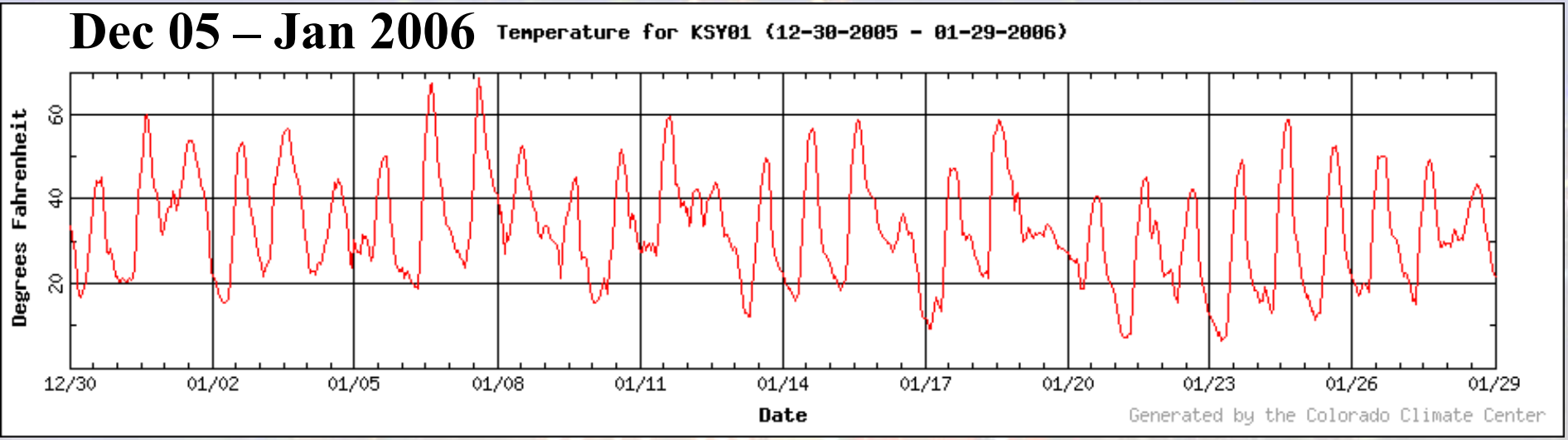
http://www.coagmet.com

CoAgMet Statewide Station Map

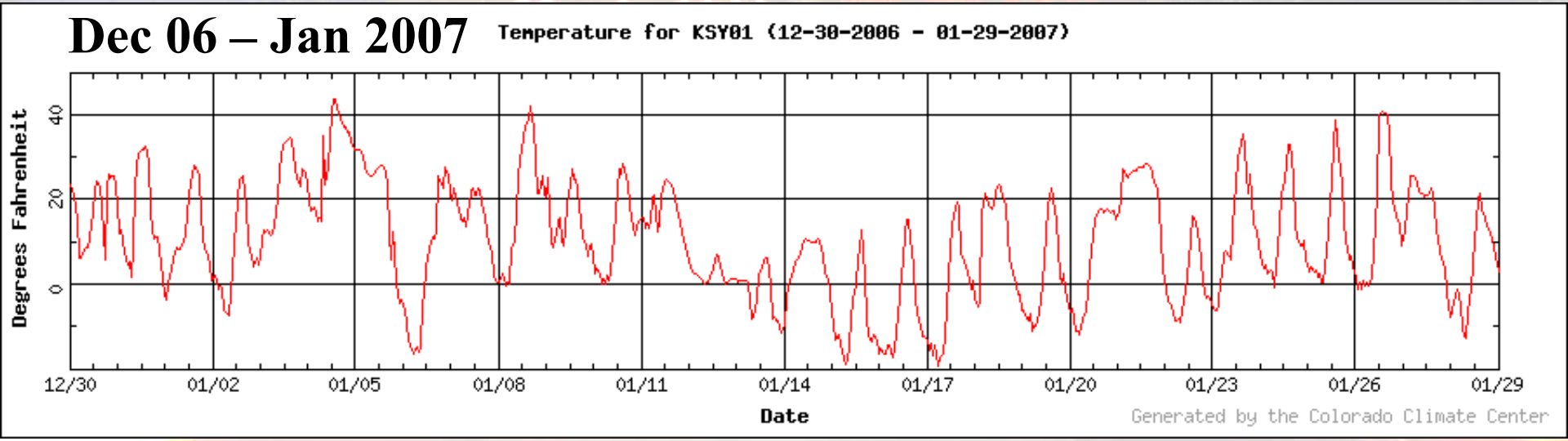


Kersey CoAgMet Temperature

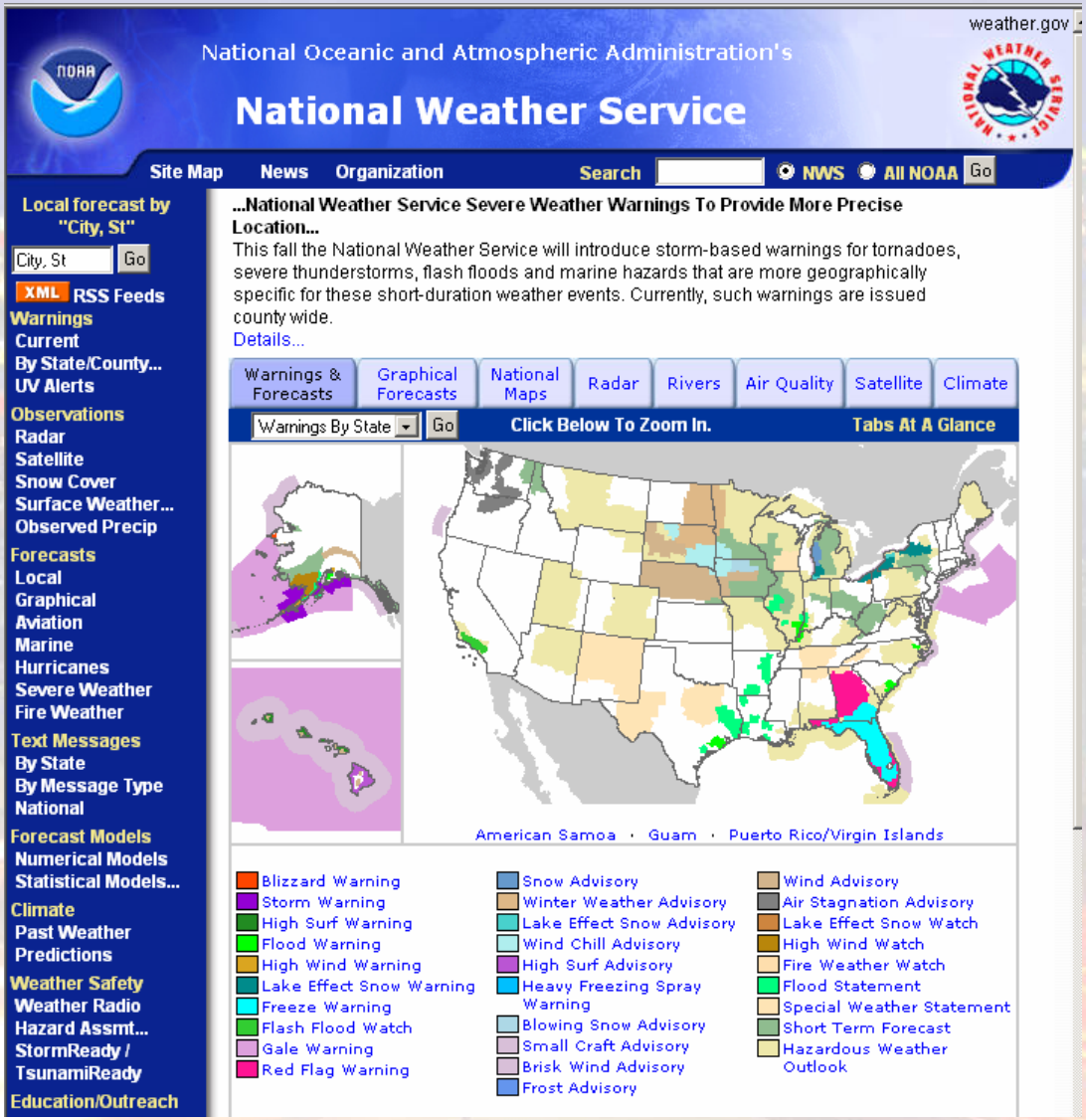
Dec 05 – Jan 2006



Dec 06 – Jan 2007



National Weather Service (NWS)



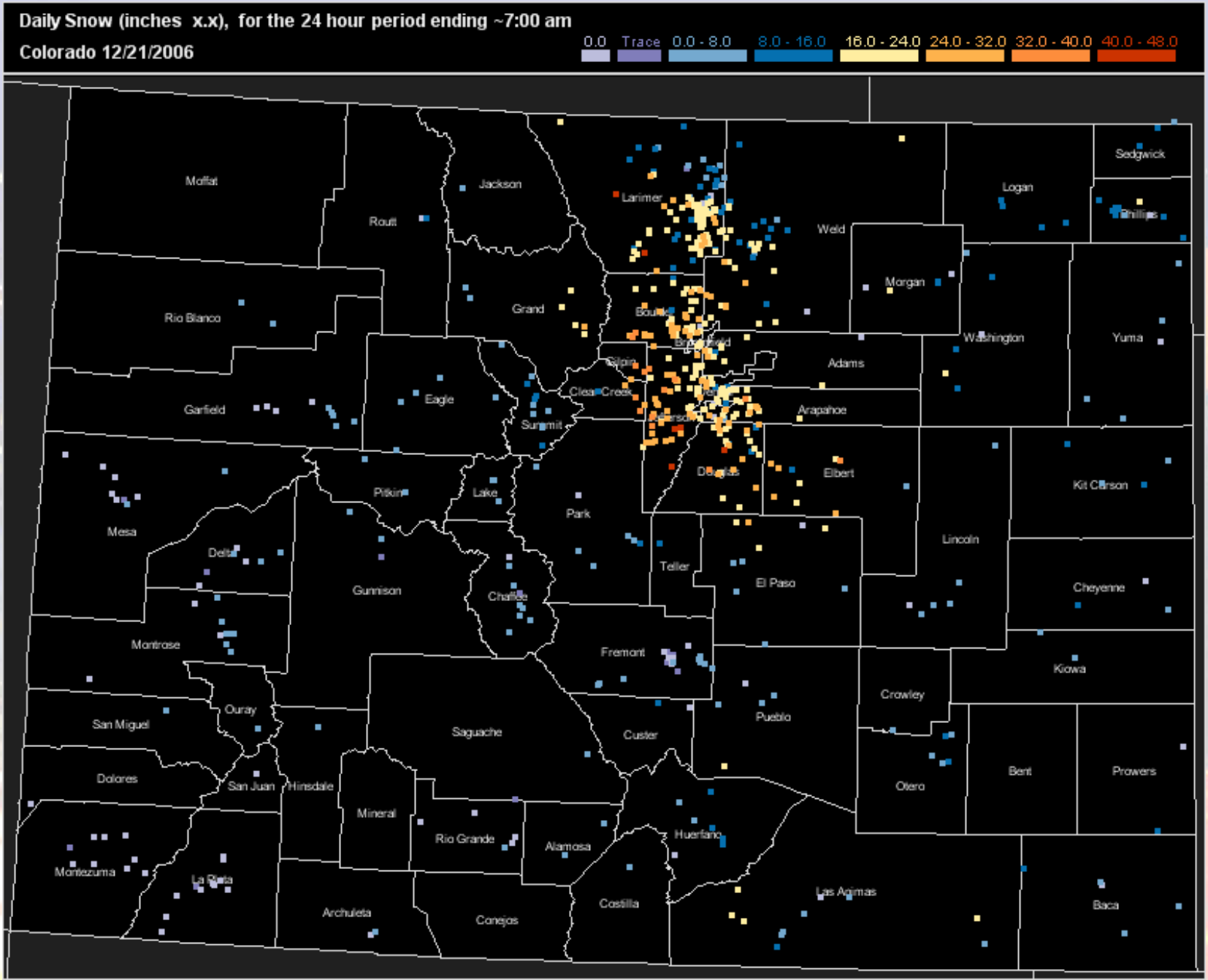
www.nws.noaa.gov

Community Collaborative Rain, Hail and Snow (CoCoRaHS) Network

Photo by H. Reges

www.cocorahs.org

CoCoRaHS snowfall map, Dec 21, 2006 Colorado Statewide



And you can help too!

Photo by H. Reges

If you are a chronic weather watcher or water worrier (or warrior) and you aren't already a part of CoCoRaHS, please see me at the break.

For More Information, Visit the CoCoRaHS Web Site

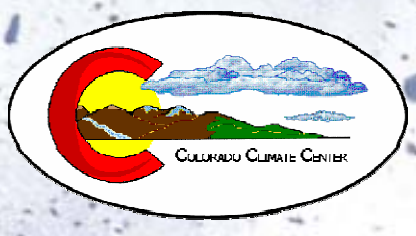
http://www.cocorahs.org

Support for this project provided by
NSF Informal Science Education Program,
NOAA Environmental Literacy Program
and
many local charter sponsors.

Colorado Climate Center

Data and Power Point Presentations available for downloading

http://ccc.atmos.colostate.edu



Colorado State University
Knowledge to Go Places